

RETAIL OPERATIONS TRANSFORMATION & PROFITABILITY OPTIMIZATION

Data-driven operational efficiency and cost optimisation for a 20-store retail chain

Independent consulting case study | Synthetic data, Apr-2024 to Mar-2026 (FY25-FY26) | Currency: ₹ crore (1 cr = 10 million)

Read this first. The dataset is synthetic (fixed random seed, engineered with realistic operating problems). Every number here is computed from it; scenario figures are **modelled estimates under stated assumptions, not verified outcomes**. The .pbix needs Power BI Desktop and is not included: Appendix C specifies the dashboard (data model, DAX, pages) with a mock-up; CSV extracts and SQL are supplied separately.

Headline results (all from the case-study dataset)

FY26 revenue growth +7.6% ₹50.0 cr vs ₹46.5 cr	Operating profit -9.0% ₹8.50 cr vs ₹9.34 cr	Operating margin 17.0% down from 20.1% (–3.1 pp)	Proposed run-rate margin 18.8% base case; recovers 57% of the decline
Net run-rate benefit (base) ₹1.11 cr conservative ₹0.69 cr; stress ₹0.34 cr	3-year NPV @12% (base) ₹1.09 cr conservative ₹0.09 cr; 5-yr ₹0.92 cr	Payback (base) 17 months one-time cost ₹0.80 cr	Break-even benefit delivery 54% of modelled benefits (3-yr NPV = 0); 88% at stress costs

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Retail Operations Transformation & Profitability Optimization

A 20-store chain grew revenue by 7.6% and still lost profit. Where the money goes, and what to do about it.

- FY26 net revenue ₹50.0 cr (+7.6%); operating profit ₹8.50 cr (-9.0%)
- Operating margin fell 3.1 pp to 17.0%
- Management question: where is profitability leaking, and which changes are worth making?
- Basis: synthetic multi-store dataset, 38,400 store-SKU-month records, SQL and a Python scenario model

Revenue FY26

₹50.0 cr

+7.6% YoY

Gross margin

35.5%

-2.4 pp YoY

Operating margin

17.0%

-3.1 pp YoY

Inventory turns

7.2x

-0.9x YoY

Est. lost sales

₹3.9 cr

7.2% of demand

Stores below 15% margin

6 of 20

26% of revenue

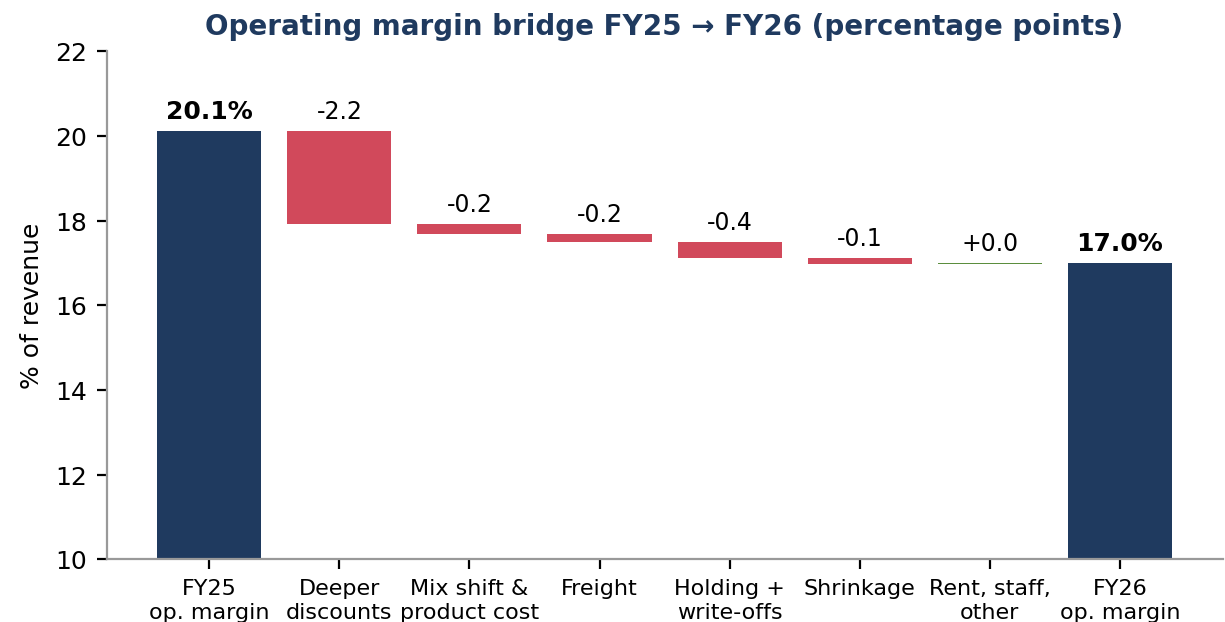
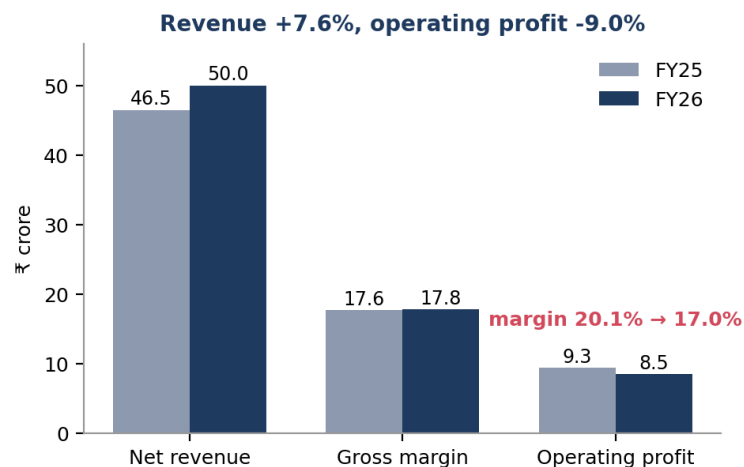
Answer first: a ₹1.11 cr run-rate improvement is realistic, concentrated in inventory, labour and discount discipline.

Executive summary: five questions, five answers

Management question	Answer from the analysis
Which stores are underperforming?	6 stores (S08, S14, S11, S17, S19, S04) earn 8.5%–14.3% margin vs 19.0% for the other 14. Closing that gap is worth ₹1.00 cr/yr.
What drives operating cost?	Two store archetypes: rent-heavy malls (rent ~11% of sales vs 5.2% chain) and over-staffed stores (staff 8–9% vs 5.1%). Chain-wide, discount creep alone cost 2.2 pp of gross margin.
Which products earn revenue but little profit?	Packaged Staples and Electronics Accessories are 30% of revenue but only 11% of contribution. 8 SKUs earn under 8% contribution margin.
Can inventory be improved?	Yes. Stock is in the wrong place: the slowest quartile holds 22% of stock for 6% of sales; the fastest quartile has 85% of lost sales (₹3.9 cr est.).
What would improve profitability?	Seven initiatives: ₹1.11 cr net run-rate benefit, ₹0.80 cr one-time cost, 17-month payback; margin 17.0% → 18.8% (base). Positive NPV in base; roughly break-even in conservative over 3 years.

Recommendation: approve Wave 1 quick wins now, pilot inventory right-sizing in 4 stores, and stage-gate the rest.

Profit is falling because of price and inventory leakage, not because of cost-of-doing-business inflation



Price

Deeper discounts cost 2.2 pp of gross margin (Apparel +8 pp, Electronics +5 pp, Home +2 pp).

Inventory

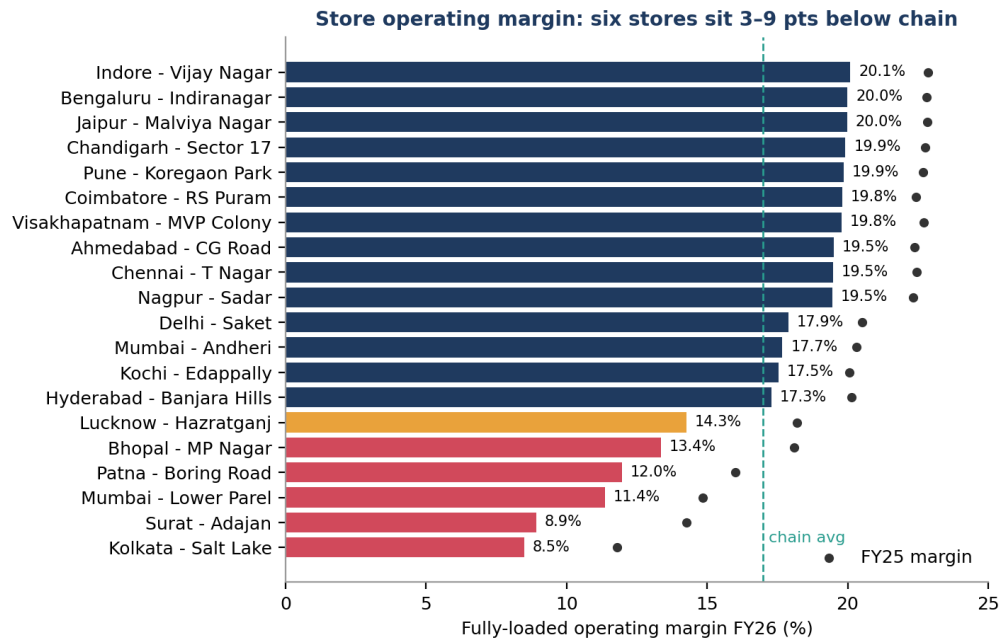
Holding cost +25% and write-offs +43% took 0.4 pp of margin.

Fixed costs

Rent, staff and other store costs are stable chain-wide; the issue is dispersion across six stores.

Deeper discounting explains ~70% of the 3.1 pp margin decline; inventory carrying and write-offs are the next largest item.

Six stores account for the profit gap, each for a different reason



- **Rent-heavy:** S04 Kolkata and S17 Mumbai Lower Parel pay 11% and 11% of sales in rent (chain 5.2%).
- **Over-staffed:** S11, S19 and S08 sell ₹820-930 per labour hour vs ₹1,587 median.
- **Leakage:** S11 and S14 lose 1.9% and 1.7% of sales to shrinkage; S19 and S14 discount deepest.
- Together these 6 stores are 26% of revenue but only 17% of profit.
- All six are still profitable: the case is fix, not close.

Lifting the six to peer-average margin (19.0%) is worth ₹1.00 cr a year before any chain-wide action.

Cost problems are specific and fixable: four distinct patterns show up in the cost-to-revenue heatmap

% of revenue, FY26 (red = adverse vs peers)

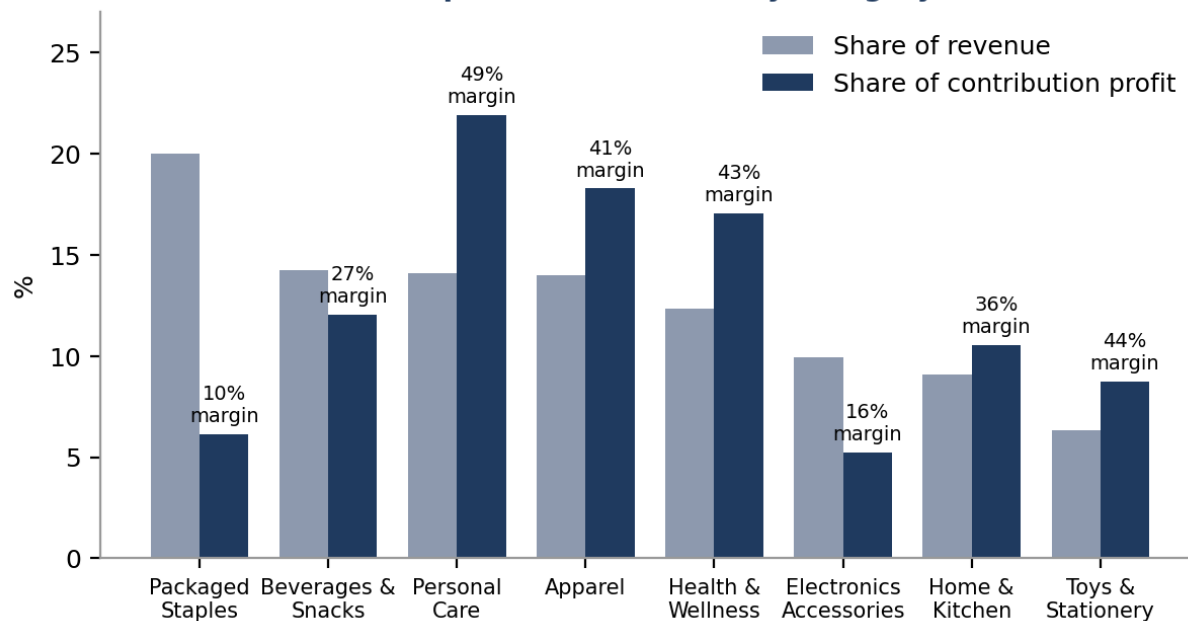
	Rent	Staff	Shrinkage	Freight	Inv. holding	Gross margin
Kolkata (S04)	11.2	6.9	0.9	2.1	1.6	35.3
Surat (S19)	7.6	8.5	1.0	1.9	1.7	33.6
Mumbai (S17)	10.8	5.1	0.8	1.8	1.6	35.3
Patna (S11)	3.7	9.0	1.9	2.4	1.6	34.8
Bhopal (S14)	4.5	6.6	1.7	2.2	1.8	34.2
Lucknow (S08)	4.5	8.0	0.8	2.0	1.6	35.2
Hyderabad (S06)	6.1	4.4	0.8	1.8	1.6	35.8
Kochi (S13)	5.6	4.5	0.8	1.9	1.6	35.9
Mumbai (S01)	6.1	4.0	0.7	1.8	1.6	35.8
Delhi (S02)	6.2	3.9	0.7	1.8	1.6	35.9
Nagpur (S16)	2.6	5.3	0.8	2.0	1.6	35.9
Chennai (S05)	4.1	4.2	0.8	1.8	1.6	35.7
Ahmedabad (S09)	3.7	4.5	0.6	1.9	1.6	35.9
Visakhapatnam (S20)	2.6	5.0	0.7	2.1	1.6	35.8
Coimbatore (S18)	3.2	4.6	0.7	2.0	1.6	35.7
Pune (S07)	3.9	4.2	0.7	1.8	1.6	35.8
Chandigarh (S12)	3.7	4.1	0.7	1.9	1.6	35.7
Jaipur (S10)	2.7	4.8	0.8	2.0	1.6	35.8
Bengaluru (S03)	4.1	3.7	0.6	1.8	1.6	35.7
Indore (S15)	2.6	4.8	0.7	2.0	1.6	35.8

- **Gross margin:** 33.6% at S19 and 34.2% at S14 vs ~35.8% peers: store-level discount leakage.
- **Rent:** structural; only 2 stores exceed 8% of sales. Renegotiate, do not exit.
- **Staff:** spread of 3.7% to 9.0% of sales; driven by headcount that does not track sales, not by wage rates.
- **Shrinkage and freight:** hotspots at the two remote, low-volume stores (S11, S14).
- **Inventory holding:** uniform ~1.6% of sales across stores: a chain-wide process issue, not a store issue.

Blanket cost cuts would hurt the 14 healthy stores; targeted fixes at six stores plus two chain-wide processes capture the value.

Revenue is not profit: two categories carry 30% of sales and 11% of contribution

Revenue vs profit contribution by category (FY26)

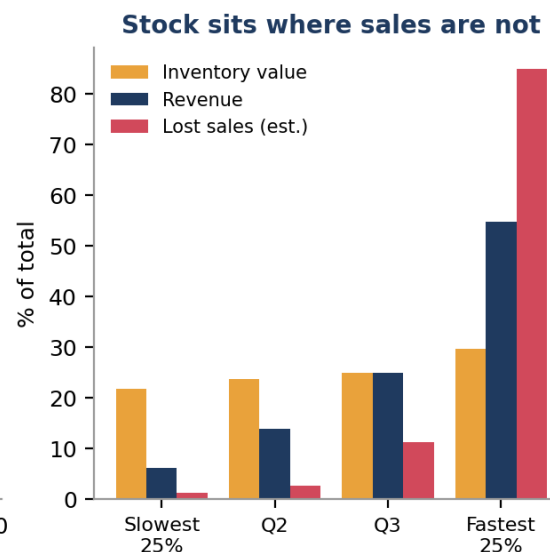
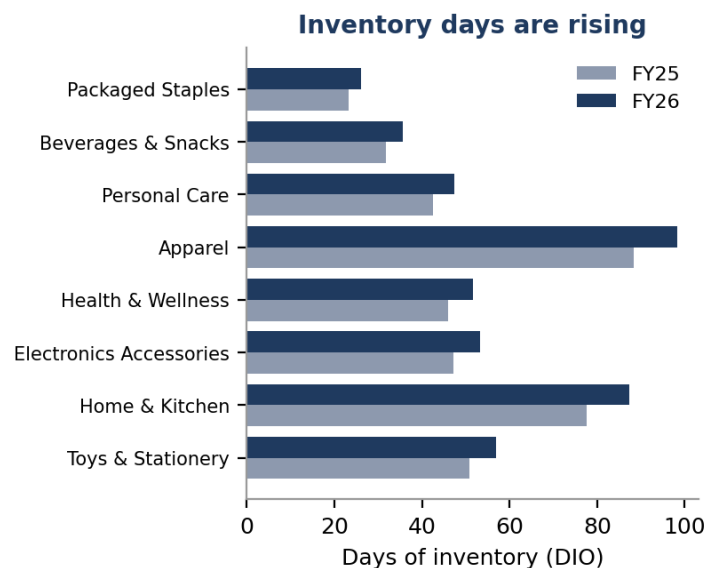


- Staples + Electronics Accessories: **30% of revenue, 11% of contribution.**
- Electronics Accessories: discount 13.5%, contribution margin 16%.
- Apparel: 27% average discount and 98 days of stock: margin survives, cash does not.
- 8 SKUs (12% of revenue) earn under 8% contribution margin.

SKU	Category	Revenue ₹ cr	Gross margin	Contribution margin	Suggested action
TOY-09	Toys & Stationery	0.01	50.7%	-54.6%	Range out / delist
ELE-08	Electronics Accessories	0.09	2.8%	-13.0%	Range out / delist
STP-01	Packaged Staples	0.47	6.1%	-1.4%	Range out / delist
ELE-02	Electronics Accessories	0.46	4.0%	-0.9%	Range out / delist
STP-04	Packaged Staples	2.49	7.1%	2.9%	Reprice or renegotiate cost

Staples are traffic-drivers and stay; the action is vendor terms and discount guardrails, not delisting the category.

Inventory is sized by rule, not by demand: too much slow stock, too little fast stock



- Inventory ₹3.6 → ₹4.5 cr (+25%) vs COGS +12%.
- Root cause: one cover rule per category plus minimum display quantities. Slow SKUs get the same units as fast ones.
- Write-offs concentrate in overstocked slow lines.

Inventory turns

8.1x → 7.2x

every category slowed

Days of inventory

45 → 51

average across chain

Est. lost sales

₹3.9 cr

7.2% of demand; ₹1.20 cr margin

Write-offs

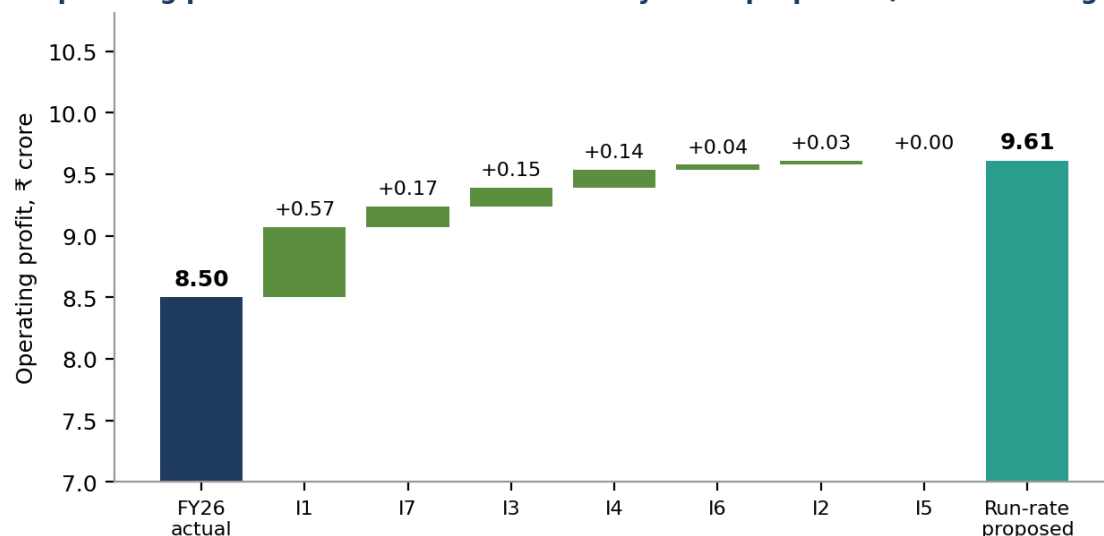
₹0.31 cr

+43% vs FY25

Demand-based cover targets release ₹1.4 cr of stock, re-invest ₹1.0 cr in fast lines, and recover ~₹0.46 cr of margin.

Seven initiatives add ₹1.11 cr of run-rate operating profit

Operating profit walk: FY26 actual → steady-state proposed (net of running costs)



Initiative	Net ₹ cr/yr	One-time ₹ cr	Payback
I1 Demand-driven replenishment & inventory right-sizing	0.57	0.37	8 mo
I7 Vendor terms on low-margin categories	0.17	0.06	4 mo
I3 Discount governance & markdown discipline	0.15	0.10	8 mo
I4 Labour productivity & rostering	0.14	0.15	13 mo
I6 Rent renegotiation at high-burden stores	0.04	0.03	9 mo
I2 Store-level assortment tail trim	0.03	0.07	29 mo
I5 Shrinkage control at hotspot stores	0.00	0.02	51 mo
Total	1.11	0.80	17 mo

Net run-rate benefit

₹1.11 cr

after running costs

One-time investment

₹0.80 cr

plus ₹0.19 cr/yr running

Payback (base)

17 months

ramped benefits

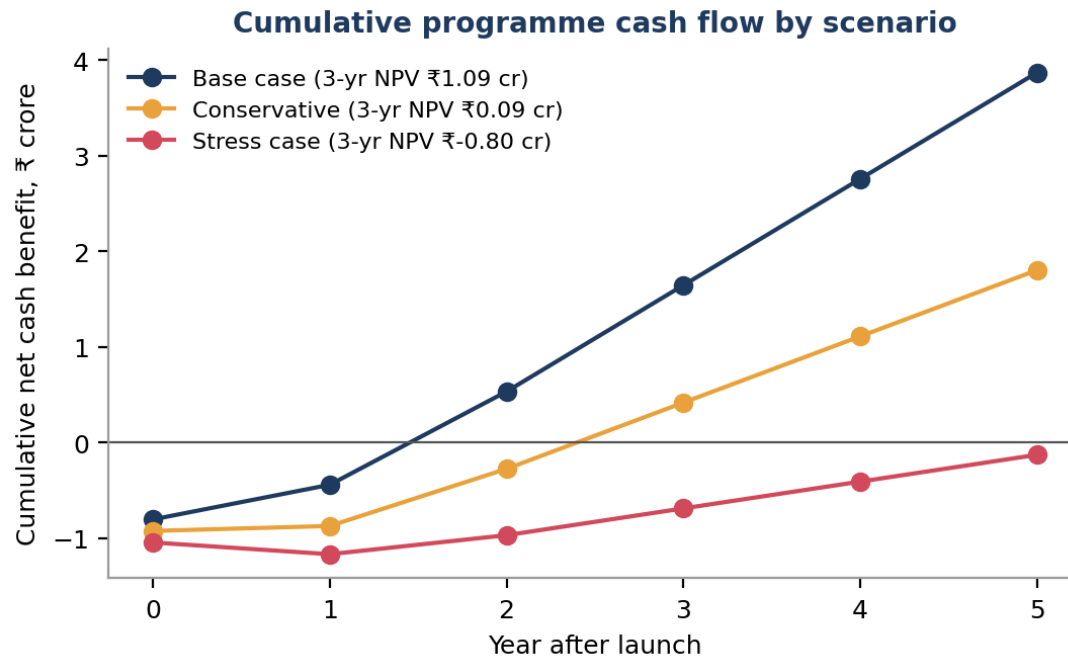
Operating margin

17.0→18.8%

run-rate, base case

About 57% of the lost margin is recovered; inventory and labour are 64% of the value.

The case holds under less favourable assumptions, but not under every one



	Base	Conservative	Stress
Benefit delivered / cost overrun	100% / 0%	70% / +15%	45% / +30%
Net run-rate benefit, ₹ cr	1.11	0.69	0.34
3-year NPV @12%, ₹ cr	1.09	0.09	-0.80
5-year NPV @12%, ₹ cr	2.43	0.92	-0.46
Payback, months	17	29	>60
Run-rate op. margin	19.2%	18.4%	17.7%

Break-even delivery

54%

of modelled benefit (88% at stress costs)

Monte Carlo: P(NPV>0)

96%

P10/P50/P90: 0.14 / 0.52 / 0.87 ₹ cr

Conservative 5-yr NPV

₹0.92 cr

3-yr NPV ₹0.09 cr

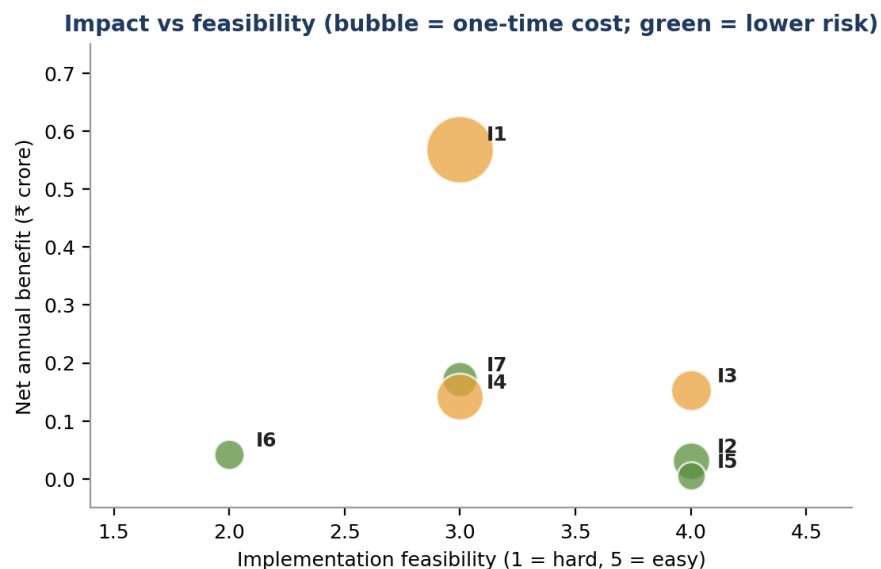
Stress case

₹-0.80 cr

3-yr NPV: not attractive, hence stage-gating

At 70% delivery and +15% cost the programme is roughly break-even over 3 years and positive over 5; at 45% delivery it is not.

Roadmap and decisions requested



Wave	Initiatives	Gate / KPI
1 Months 0-3 Stop the leaks	I7 vendor terms, I3 discount caps at POS, I6 rent talks (S04, S17), I5 shrink controls at S11/S14	Discount rate $\leq$ FY25 +2 pp; shrink at S11/S14 $<$ 1.1%
2 Months 3-9 Fix the base	I4 rostering and attrition-led headcount, I2 range trim, I1 pilot in 4 stores	Pilot: fill rate $\geq$ 95%, stock cover -10%, sales not down
3 Months 9-15 Scale	I1 chain roll-out; store review of S04/S17 at lease events	Sales per labour hour $\geq$ ₹1,428 in the 6 stores in scope

Decisions requested today

- Approve ₹0.80 cr one-time budget (₹0.19 cr/yr running), released by wave.
- Name an owner per initiative (COO, Category, Pricing, Store Ops, Property, Procurement).
- Authorise the 4-store inventory pilot with a go/no-go at month 6.

Start where value is high and risk is low (I7, I3, I6), prove the inventory model in a pilot, then scale.

1. Scope, data and method

Business problem. A 20-store retailer is growing revenue but earning less. Management asked five questions; each is answered in the section shown.

Management question	Where answered	Deliverable
Which stores are underperforming?	Section 3	Store ranking, cost heatmap, root-cause archetypes
What is driving operating costs?	Sections 2-3	P&L, margin bridge, cost-to-revenue ratios
Which products generate revenue but little profit?	Section 4	Category and SKU contribution analysis
Can inventory management be improved?	Section 5	Turnover, stock-outs, lost-sales and misallocation analysis
What operational changes would improve profitability?	Sections 6-7	Scenario model, sensitivity, Monte Carlo, roadmap

Data. A synthetic dataset covering 20 stores in 4 regions and 3 formats (mall, high street, neighbourhood), 80 SKUs in 8 categories, and 24 months (April 2024 to March 2026; FY25 = Apr-24 to Mar-25, FY26 = Apr-25 to Mar-26). It was generated with a fixed seed and calibrated to ~₹50 cr FY26 revenue; operating problems (rent-heavy malls, over-staffing, shrinkage hotspots, uniform stocking rules, discount creep, thin-margin SKUs) were deliberately built in so the diagnostic method can be demonstrated end to end.

Table	Grain	Rows	Key fields
fact_sales_inventory	store × SKU × month	38,400	units, gross sales, discount, net revenue, COGS, freight, closing stock (units, value), stock-out days, write-offs
fact_store_ops	store × month	480	transactions, footfall, FTE, staff hours, rent, staff cost, utilities, marketing, shrinkage, other
fact_hq_cost	fiscal year	2	HQ cost, allocated to stores by revenue share
dim_store / dim_sku / dim_date	dimension	20 / 80 / 24	region, format, sqft / category, MRP, unit cost / fiscal year, days in month

Definitions. *Gross margin* = net revenue – COGS. *Contribution* = gross margin – freight – write-offs – inventory holding cost. *Operating profit* = contribution – rent – staff – utilities – marketing – shrinkage – other store costs – allocated HQ cost. *Total operating cost* = COGS plus all of the above. *Cost-to-revenue ratio* = total operating cost ÷ revenue (= 1 – operating margin). *Inventory holding cost* = 18% a year of average inventory value (12% cost of capital + 6% storage and handling). *Lost sales* are estimated per store-SKU-month as units sold ÷ (days – stock-out days) × stock-out days, valued at realised price.

Method. (1) Load into SQLite, build two reusable views (store-SKU-year and store P&L), and answer each question with SQL (Appendix B). (2) Benchmark stores, categories and SKUs internally (peer median, best-quartile). (3) Convert each finding into an initiative whose benefit is computed bottom-up from the store-SKU data, then apply ramp, one-time and running costs. (4) Stress the result with three scenarios, a one-way sensitivity analysis and a Monte Carlo simulation.

2. Business diagnostics and financial analysis

₹ crore	FY25	% rev	FY26	% rev	Change
Net revenue	46.48	100.0%	50.00	100.0%	+7.6%
Cost of goods sold	28.84	62.0%	32.23	64.5%	+11.8%
Gross margin	17.64	38.0%	17.77	35.5%	+0.7%
Freight and logistics	0.80	1.7%	0.95	1.9%	+19.1%
Write-offs	0.22	0.5%	0.31	0.6%	+42.6%
Inventory holding cost	0.64	1.4%	0.80	1.6%	+25.3%
Rent	2.47	5.3%	2.61	5.2%	+6.0%
Staff	2.32	5.0%	2.53	5.1%	+9.1%
Utilities	0.20	0.4%	0.21	0.4%	+4.9%
Marketing	0.42	0.9%	0.45	0.9%	+7.0%
Shrinkage	0.31	0.7%	0.41	0.8%	+31.3%
Other store costs	0.21	0.4%	0.23	0.5%	+8.7%
HQ allocation	0.72	1.5%	0.77	1.5%	+6.9%
Operating profit	9.34	20.1%	8.50	17.0%	-9.0%
Total operating cost (COGS + all costs)	37.13	79.9%	41.50	83.0%	+11.8%
Opex ratio (all costs excl. COGS)		17.9%		18.5%	+0.7 pp

Table 2.1 Company P&L from SQL view v_store_pnl. Total operating cost rose 11.8% (COGS +11.8%) against revenue +7.6%, so the cost-to-revenue ratio moved from 79.9% to 83.0%.

Key findings

- **Margin, not volume, is the problem.** Revenue grew 7.6% but gross margin dollars were flat (₹17.64 → ₹17.77 cr), because gross margin % fell 2.4 pp to 35.5%.
- **Discount creep is the largest single driver.** Holding FY26 volumes constant, restoring FY25 category discount rates would add about 2.2 pp of gross margin (70% of the operating-margin decline). Apparel (+8 pp), Electronics Accessories (+5 pp) and Home & Kitchen (+2 pp) moved most; FY26 average discount rate is 11.5%.
- **Inventory costs grew faster than sales.** Holding cost +25% and write-offs +43% (together 0.26 cr, or 0.4 pp of margin).
- Rent, staff and other store costs were broadly stable as a share of revenue at chain level; the problem there is dispersion across stores (Section 3).

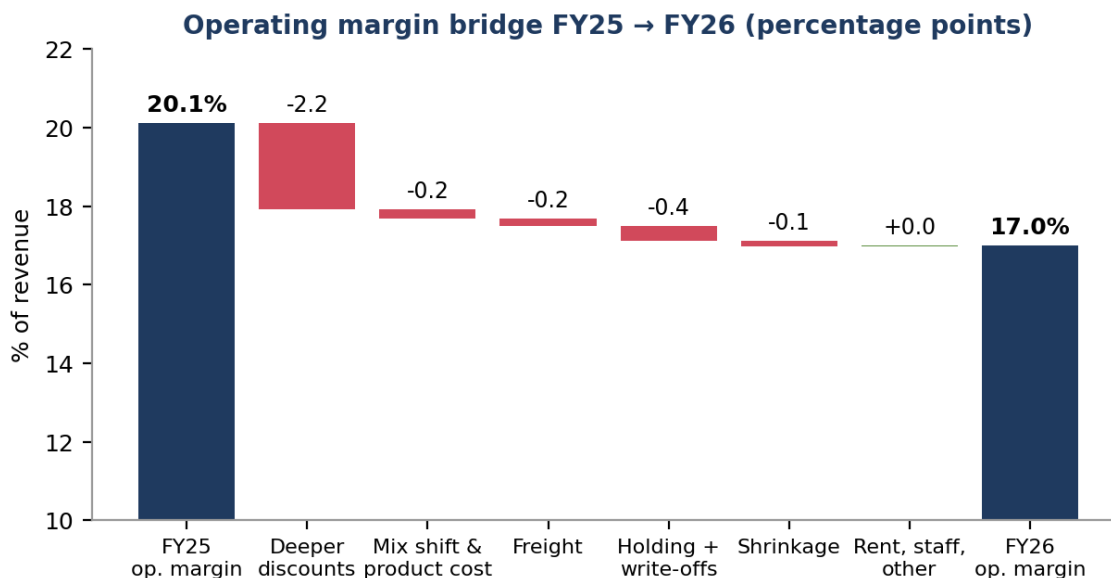


Figure 2.1 Operating-margin bridge. "Deeper discounts" compares FY26 gross margin with FY26 volumes priced at FY25 category discount rates; "Mix shift & product cost" is the remainder of the gross-margin change.

3. Store performance and operational productivity

#	Store	Format	Rev ₹cr	GM %	Op. margin	vs FY25	Rev/sqft ₹	Rev/labour hr ₹	Rent %	Staff %
1	S15 Indore - Vijay Nagar	Neighbourhood	1.87	35.8%	20.1%	-2.8 pp	8,919	1,540	2.6%	4.8%
2	S03 Bengaluru - Indiranagar	High Street	3.44	35.7%	20.0%	-2.8 pp	11,471	1,979	4.1%	3.7%
3	S10 Jaipur - Malviya Nagar	Neighbourhood	1.99	35.8%	20.0%	-2.8 pp	9,049	1,551	2.7%	4.8%
4	S12 Chandigarh - Sector 17	High Street	2.49	35.7%	19.9%	-2.8 pp	10,387	1,789	3.7%	4.1%
5	S07 Pune - Koregaon Park	High Street	2.77	35.8%	19.9%	-2.8 pp	10,263	1,765	3.9%	4.2%
6	S18 Coimbatore - RS Puram	High Street	2.16	35.7%	19.8%	-2.6 pp	9,404	1,623	3.2%	4.6%
7	S20 Visakhapatnam - MVP Colony	Neighbourhood	1.80	35.8%	19.8%	-2.9 pp	8,552	1,476	2.6%	5.0%
8	S09 Ahmedabad - CG Road	High Street	2.45	35.9%	19.5%	-2.9 pp	9,411	1,634	3.7%	4.5%
9	S05 Chennai - T Nagar	High Street	2.88	35.7%	19.5%	-3.0 pp	10,283	1,768	4.1%	4.2%
10	S16 Nagpur - Sadar	Neighbourhood	1.62	35.9%	19.5%	-2.9 pp	8,093	1,389	2.6%	5.3%
11	S02 Delhi - Saket	Mall	4.01	35.9%	17.9%	-2.6 pp	11,128	1,915	6.2%	3.9%
12	S01 Mumbai - Andheri	Mall	3.63	35.8%	17.7%	-2.6 pp	10,670	1,838	6.1%	4.0%
13	S13 Kochi - Edappally	Mall	2.84	35.9%	17.5%	-2.5 pp	9,468	1,639	5.6%	4.5%
14	S06 Hyderabad - Banjara Hills	Mall	3.14	35.8%	17.3%	-2.9 pp	9,800	1,686	6.1%	4.4%
15	S08 Lucknow - Hazratganj	High Street	2.35	35.2%	14.3%	-3.9 pp	8,099	930	4.5%	8.0%
16	S14 Bhopal - MP Nagar	High Street	1.80	34.2%	13.4%	-4.8 pp	7,194	1,130	4.5%	6.6%
17	S11 Patna - Boring Road	Neighbourhood	1.22	34.8%	12.0%	-4.0 pp	6,115	820	3.7%	9.0%
18	S17 Mumbai - Lower Parel	Mall	2.92	35.3%	11.4%	-3.5 pp	8,853	1,448	10.8%	5.1%
19	S19 Surat - Adajan	Mall	2.25	33.6%	8.9%	-5.3 pp	7,246	870	7.6%	8.5%
20	S04 Kolkata - Salt Lake	Mall	2.38	35.3%	8.5%	-3.3 pp	6,798	1,070	11.2%	6.9%

Table 3.1 FY26 store league table (fully loaded margin after rent, staff, freight, holding cost, shrinkage and allocated HQ). Shaded: operating margin below 15%. Source: SQL queries store_ranking and store_productivity.

The six flagged stores generate 26% of revenue but 17% of operating profit; their average margin is 11.3% versus 19.0% for the other 14. All six were also among the stores whose margin fell most in FY26 (average -4.1 pp vs -2.8 pp). Applying the peer-average margin to them is worth ₹1.00 cr a year.

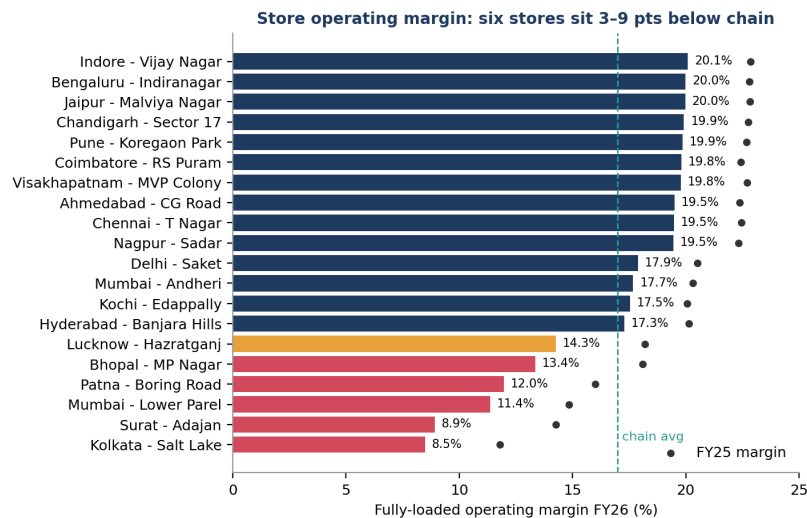


Figure 3.1 FY26 operating margin by store (bars) and FY25 margin (dots).

Root-cause archetypes

Archetype	Stores	Evidence (FY26)	Response
A. Rent-heavy mall	S04, S17	Rent 11.2% / 10.8% of sales (chain 5.2%); S04 revenue/sqft ₹6,798	Renegotiate rent (I6); sales-density plan; review at lease event
B. Over-staffed	S19, S08, S11	Staff 8.5% / 8.0% / 9.0% of sales; ₹870 / 930 / 820 per labour hour (best store ₹1,979)	Rostering to footfall; attrition-led headcount reset (I4)
C. Leakage and supply	S11, S14	Shrinkage 1.9% / 1.7% (chain 0.8%); freight 2.4% / 2.2%; S14 stock-out days highest	EAS/CCTV analytics (I5); replenishment fix (I1)
D. Discount leakage	S19, S14	Gross margin 33.6% / 34.2% vs ~35.8% peers; store-level discount 3-4 pp above chain	POS discount caps and approvals (I3)

% of revenue, FY26 (red = adverse vs peers)						
	Rent	Staff	Shrinkage	Freight	Inv. holding	Gross margin
Kolkata (S04)	11.2	6.9	0.9	2.1	1.6	35.3
Surat (S19)	7.6	8.5	1.0	1.9	1.7	33.6
Mumbai (S17)	10.8	5.1	0.8	1.8	1.6	35.3
Patna (S11)	3.7	9.0	1.9	2.4	1.6	34.8
Bhopal (S14)	4.5	6.6	1.7	2.2	1.8	34.2
Lucknow (S08)	4.5	8.0	0.8	2.0	1.6	35.2
Hyderabad (S06)	6.1	4.4	0.8	1.8	1.6	35.8
Kochi (S13)	5.6	4.5	0.8	1.9	1.6	35.9
Mumbai (S01)	6.1	4.0	0.7	1.8	1.6	35.8
Delhi (S02)	6.2	3.9	0.7	1.8	1.6	35.9
Nagpur (S16)	2.6	5.3	0.8	2.0	1.6	35.9
Chennai (S05)	4.1	4.2	0.8	1.8	1.6	35.7
Ahmedabad (S09)	3.7	4.5	0.6	1.9	1.6	35.9
Visakhapatnam (S20)	2.6	5.0	0.7	2.1	1.6	35.8
Coimbatore (S18)	3.2	4.6	0.7	2.0	1.6	35.7
Pune (S07)	3.9	4.2	0.7	1.8	1.6	35.8
Chandigarh (S12)	3.7	4.1	0.7	1.9	1.6	35.7
Jaipur (S10)	2.7	4.8	0.8	2.0	1.6	35.8
Bengaluru (S03)	4.1	3.7	0.6	1.8	1.6	35.7
Indore (S15)	2.6	4.8	0.7	2.0	1.6	35.8

Figure 3.2 Cost-to-revenue ratios by store, ordered from lowest to highest operating margin. Colour shows deviation from the peer mean (red = adverse).

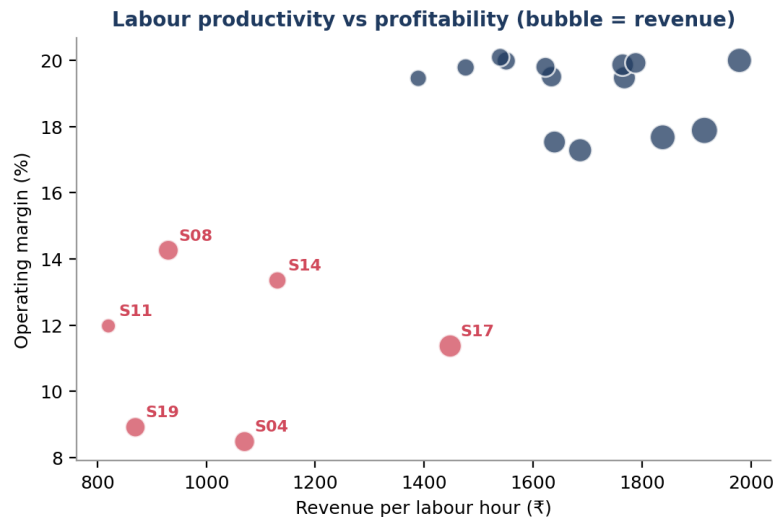


Figure 3.3 Labour productivity vs operating margin. Five of the six flagged stores are among the six lowest on sales per labour hour; S17 is the exception (its problem is rent).

4. Product profitability

Category	Rev ₹cr	Rev share	GM %	Contrib. %	Contrib. share	Discount	Turns	DIO	Lost GM ₹cr
Packaged Staples	10.00	20.0%	14.2%	9.7%	6.1%	5.3%	14.0	26	0.06
Beverages & Snacks	7.12	14.2%	30.3%	26.6%	12.1%	7.2%	10.2	36	0.15
Personal Care	7.05	14.1%	51.1%	48.8%	21.9%	9.2%	7.7	47	0.26
Apparel	6.98	14.0%	47.3%	41.1%	18.3%	27.5%	3.7	98	0.27
Health & Wellness	6.18	12.4%	45.9%	43.3%	17.0%	8.3%	7.1	52	0.11
Electronics Accessories	4.97	9.9%	20.2%	16.5%	5.2%	13.5%	6.9	53	0.06
Home & Kitchen	4.54	9.1%	42.9%	36.5%	10.6%	12.5%	4.2	87	0.35
Toys & Stationery	3.15	6.3%	47.2%	43.6%	8.8%	12.3%	6.4	57	0.03

Table 4.1 Category economics FY26. Contribution = gross margin – freight – write-offs – 18% holding cost. DIO = days of inventory. Lost GM = estimated gross margin lost to stock-outs.

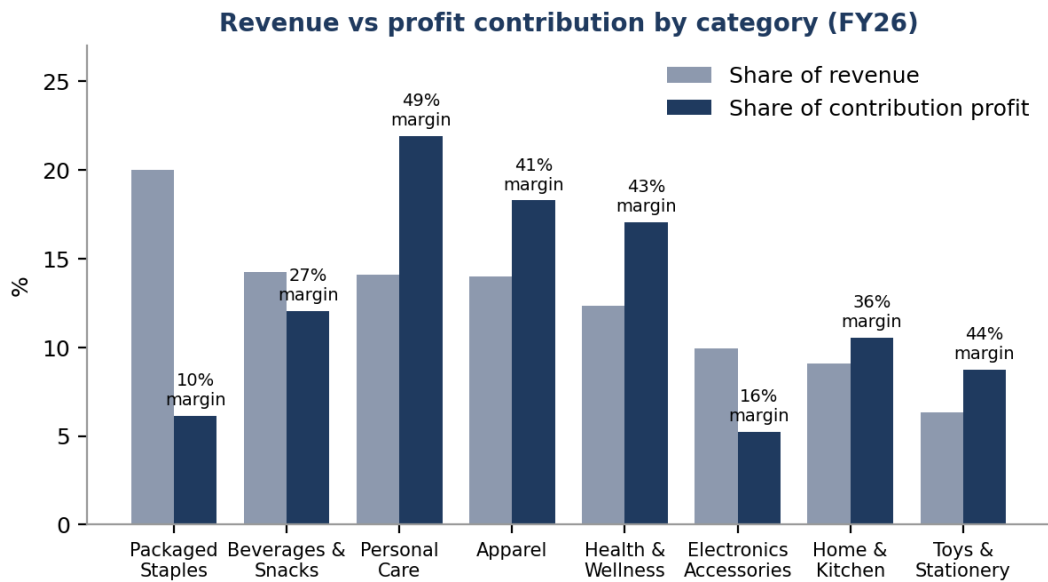


Figure 4.1 Revenue share vs contribution share.

- **Staples and Electronics Accessories** contribute 30% of revenue and 11% of contribution. Staples gross margin is 14.2% and its contribution margin 9.7%; Electronics Accessories is at 16.5% after a 5-pp deeper discount in FY26. These two categories also grew fastest (+14% and +11%), so mix shift is dilutive.
- **Apparel and Home & Kitchen** keep high contribution margins (41%, 36%) but turn only 3.7x and 4.2x a year, so they hold the most cash per rupee of sales and carry the highest write-off rates.

Revenue-without-profit SKUs

SKU	Category	Revenue ₹cr	GM %	Contribution ₹ lakh	Contrib. margin	Action
TOY-09	Toys & Stationery	0.01	50.7%	-0.4	-54.6%	Range out / delist
ELE-08	Electronics Accessories	0.09	2.8%	-1.1	-13.0%	Range out / delist
STP-01	Packaged Staples	0.47	6.1%	-0.7	-1.4%	Range out / delist
ELE-02	Electronics Accessories	0.46	4.0%	-0.4	-0.9%	Range out / delist
STP-04	Packaged Staples	2.49	7.1%	7.3	2.9%	Reprice or renegotiate cost
STP-03	Packaged Staples	0.18	14.4%	0.6	3.3%	Reprice or renegotiate cost
ELE-05	Electronics Accessories	0.95	6.4%	4.1	4.3%	Reprice or renegotiate cost
STP-05	Packaged Staples	1.57	11.5%	11.4	7.3%	Reprice or renegotiate cost

Table 4.2 Eight lowest-contribution SKUs (FY26). 8 SKUs earn below 8% contribution margin: ₹6.2 cr of revenue (12%) for ₹0.21 cr of contribution. Only 4 SKUs are negative chain-wide, but at store-SKU level 31 rows stay negative even after inventory right-sizing (Section 6).

5. Inventory and operational analysis

Category	Turns FY25	Turns FY26	DIO FY25	DIO FY26	Write-offs FY26 ₹ lakh	Stock-out days / SKU-month
Packaged Staples	15.7	14.0	23	26	0.5	0.97
Beverages & Snacks	11.5	10.2	32	36	0.9	1.00
Personal Care	8.6	7.7	42	47	0.8	0.99
Apparel	4.1	3.7	88	98	19.2	1.31
Health & Wellness	7.9	7.1	46	52	1.5	0.76
Electronics Accessories	7.7	6.9	47	53	2.8	1.33
Home & Kitchen	4.7	4.2	78	87	4.6	1.56
Toys & Stationery	7.2	6.4	51	57	1.1	0.47
Chain	8.1	7.2	45	51	31.3	

Table 5.1 Inventory turnover = $COGS \div \text{average inventory value}$ (monthly closing stock averaged over the year).

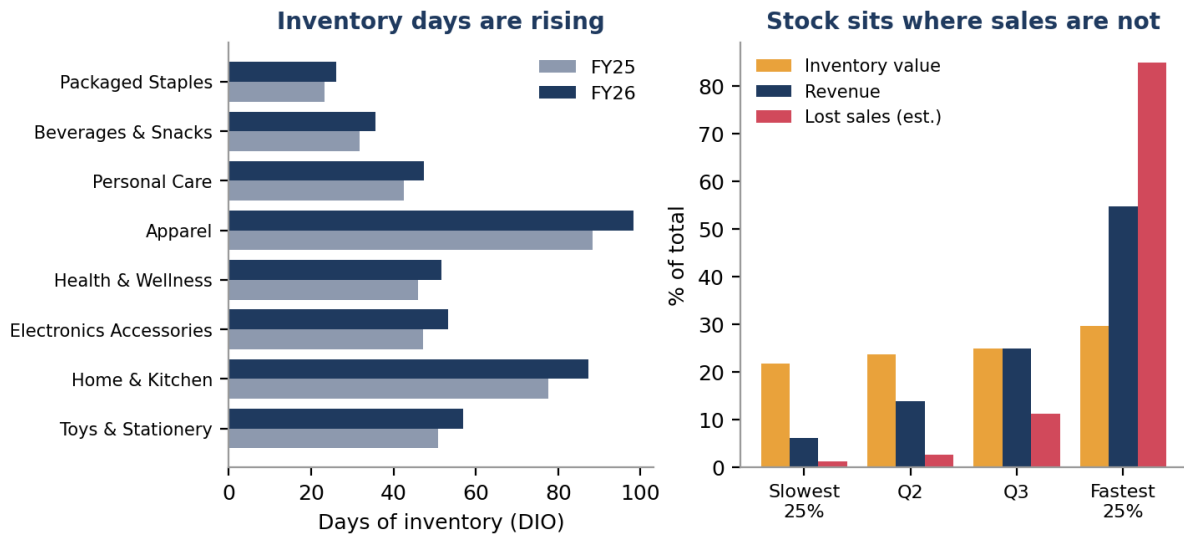


Figure 5.1 Left: days of inventory by category, FY25 vs FY26. Right: share of inventory value, revenue and estimated lost sales by store-SKU velocity quartile (ranked on FY26 revenue).

- **Average inventory rose 25%** (₹3.57 → ₹4.47 cr) against COGS +12%: turns fell from 8.1x to 7.2x and every category slowed.
- **Stock is misallocated, not just excessive.** The slowest quartile of store-SKU lines holds 22% of inventory value for 6.3% of revenue; the fastest quartile earns 55% of revenue from 30% of inventory and accounts for 85% of estimated lost sales.
- **Estimated lost sales are ₹3.9 cr (7.2% of demand) and ₹1.20 cr of gross margin**, the single largest inventory prize. 809 of 1,600 store-SKU lines carry more than 1.5x the demand-based target stock (₹2.51 cr of stock).
- **Likely mechanism:** one cover-days rule per category and a minimum display quantity per SKU. The rule sizes stock to the category average, so a SKU selling at a fifth of the average is overstocked 5x while one selling at twice the average runs out. FY26 stock levels also drifted up (about +12% cover) while sales growth was concentrated in fast lines.
- **Store productivity.** Revenue per labour hour ranges ₹820 to ₹1,979 (median ₹1,587); conversion 27% to 40%; basket value is flat at ~₹740 everywhere, so the differences are traffic, conversion and staffing, not ticket size.

6. Scenario modelling and business case

Each initiative is sized bottom-up from FY26 store-SKU or store data, then reduced by an execution factor. Benefits are applied in a fixed order (I1 → I7) so that overlapping effects are not double-counted: later initiatives are evaluated on the post-I1 position. Assumptions are listed in Appendix A and flexed in Sections 6.4-6.5.

6.1 Initiatives and sizing logic

ID	Initiative	How the benefit is built (base case)	Net ₹ cr/yr
I1	Demand-driven replenishment & inventory right-sizing	Set stock to demand-based cover by category (e.g. staples 20 days, apparel 70). Release 75% of excess (₹1.38 cr), fund shortfalls (₹0.97 cr); recover 40% of lost sales (₹0.46 cr net margin, ₹1.56 cr revenue); halve write-offs on overstocked lines (₹0.14 cr); holding saving ₹0.07 cr.	0.57
I2	Store-level assortment tail trim	Delist store-SKU lines still negative after I1 (31 lines, 4 SKUs, ₹0.35 cr revenue); 40% of sales assumed to transfer to better lines in the category; 30% clearance loss on remaining stock.	0.03
I3	Discount governance & markdown discipline	Cap discounts at FY25 category rate + 2 pp. Recapture 70% of store-level leakage (elasticity 0.5) and 35% of chain-level creep (elasticity 1.5); benefit is net of volume loss.	0.15
I4	Labour productivity & rostering	Target sales per FTE of 90% of the median (floor 4.5 FTE); 7.6 FTE removed through attrition at 6 stores (60% capture, ₹0.14 cr) plus 3% rostering saving elsewhere (₹0.05 cr).	0.14
I5	Shrinkage control at hotspot stores	Bring S11, S14 toward the best-quartile shrink rate (0.71%) with a process fix (stock-count discipline, access control, audits); 45% of excess captured. The EAS/CCTV technology option (₹4 lakh capex + ₹1.5 lakh/yr per store) would net ₹-0.02 cr/yr and is not recommended.	0.00

ID	Initiative	How the benefit is built (base case)	Net ₹ cr/yr
I6	Rent renegotiation at high-burden stores	Renegotiate rent at S04, S17 (rent above 8% of sales): 12% reduction, 60% probability of success.	0.04
I7	Vendor terms on low-margin categories	1.0% net saving on COGS of Staples, Electronics Accessories and Beverages (₹17.2 cr base; 2% target, half achieved).	0.17
Total			1.11

6.2 Initiative economics

ID	Gross benefit ₹ cr	Running cost ₹ cr	Net ₹ cr	One-time ₹ cr	Simple payback	Revenue effect ₹ cr	Feasibility (1-5)	Risk (1-5)
I1	0.67	0.10	0.57	0.37	8 mo	+1.56	3	3
I2	0.03	0.00	0.03	0.07	29 mo	-0.21	4	2
I3	0.18	0.03	0.15	0.10	8 mo	-0.11	4	3
I4	0.19	0.05	0.14	0.15	13 mo	+0.00	3	3
I5	0.01	0.01	0.00	0.02	51 mo	+0.00	4	1
I6	0.04	0.00	0.04	0.03	9 mo	+0.00	2	2
I7	0.17	0.00	0.17	0.06	4 mo	+0.00	3	2
Total	1.30	0.19	1.11	0.80		+1.24		

Table 6.2 Steady-state (year 3) economics. Payback = one-time cost ÷ net annual benefit. Feasibility and risk are judgement scores (Section 7).

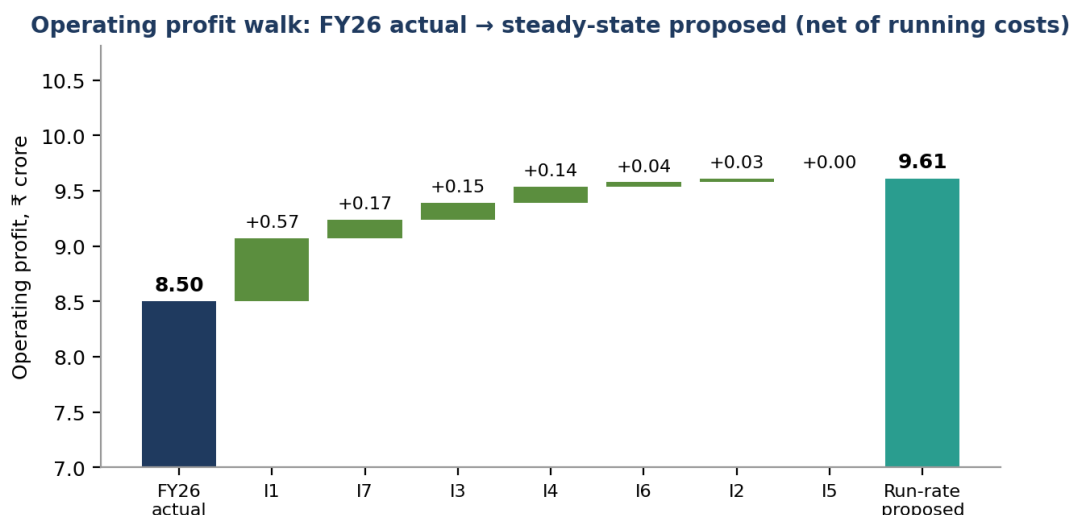


Figure 6.1 Operating profit walk. Because I1 raises sales as well as cutting cost, revenue also moves.

6.3 Current vs proposed operating model

₹ crore	FY26 actual	Proposed (base)	Conservative	Stress
Annual net revenue	50.00	51.24	50.87	50.56
Total operating cost (COGS + all costs)	41.50	41.63	41.68	41.72
Operating profit	8.50	9.61	9.19	8.84
Operating margin	17.0%	18.8%	18.1%	17.5%
Inventory holding cost	0.80	0.72	0.75	0.77
Average inventory	4.47	4.01	4.15	4.26
Estimated lost sales	3.91	2.34	2.81	3.20
One-time investment / running cost per year	-	0.80 / 0.19	0.92 / 0.22	1.05 / 0.25

Table 6.3 Steady-state (year 3) position. Revenue rises by ₹1.24 cr in the base case (recovered sales net of delisting and price effects), so margin gains are slightly diluted versus profit gains. Holding cost falls only modestly (₹0.80 → ₹0.72 cr) because stock is re-balanced rather than simply cut: ₹1.38 cr is released from slow lines and ₹0.97 cr re-invested in fast lines. The ₹0.46 cr net release is cash, shown as a memo item and excluded from NPV.

6.4 Scenarios and downside tests

	Base	Conservative	Stress
Assumptions	100% of modelled benefit; costs as budgeted; ramp 35%/85%/100% (11)	70% of benefit; costs +15%; Year-1 ramp $\times 0.7$	45% of benefit; costs +30%; ramp $\times 0.5 / 0.85 / 0.9$
Net run-rate benefit ₹ cr	1.11	0.69	0.34
Operating margin (run-rate)	18.8%	18.1%	17.5%
Cash flows Y0 / Y1 / Y2 / Y3 ₹ cr	-0.80 / 0.36 / 0.98 / 1.11	-0.92 / 0.05 / 0.60 / 0.69	-1.05 / -0.12 / 0.20 / 0.28
3-year NPV @12% ₹ cr	1.09	0.09	-0.80
5-year NPV @12% ₹ cr	2.43	0.92	-0.46
Payback	17 months	29 months	beyond year 5
3-year return on spend	120%	26%	-39%

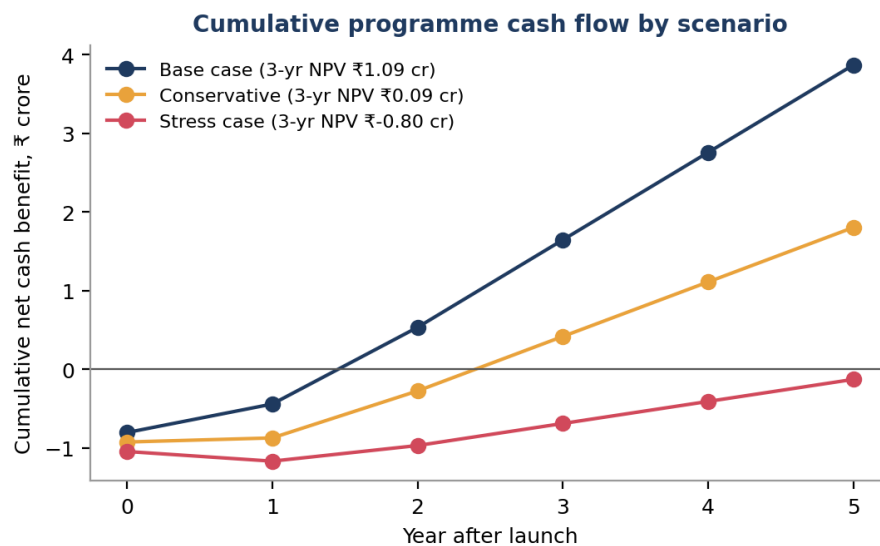


Figure 6.2 Cumulative cash benefit. NPV discounts at 12%; years 4 and 5 are held at the year-3 run-rate with no decay (an optimistic simplification, flagged in Appendix F). Break-even: the programme needs **54%** of modelled benefits to reach zero 3-year NPV at budgeted cost, and **88%** if costs overrun 30% with a slow ramp.

6.5 Sensitivity and simulation

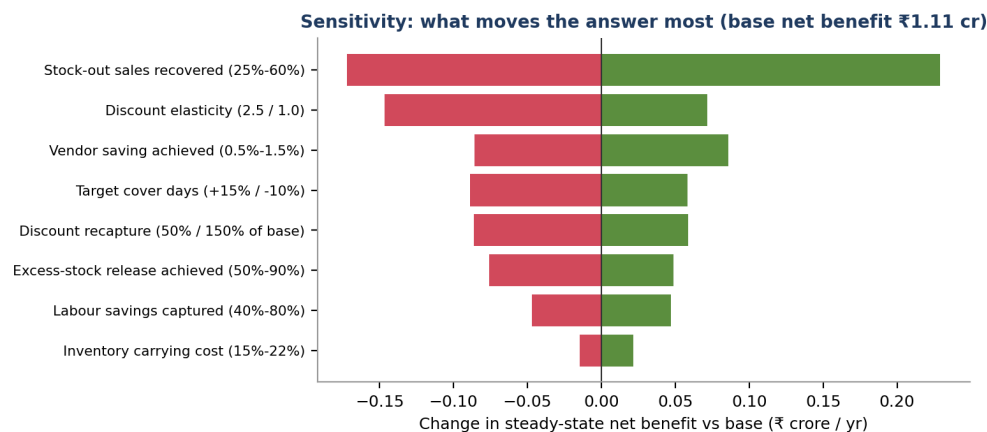


Figure 6.3 One-way sensitivity of steady-state net benefit. The result is most exposed to how much lost sales can actually be recovered and to discount elasticity.

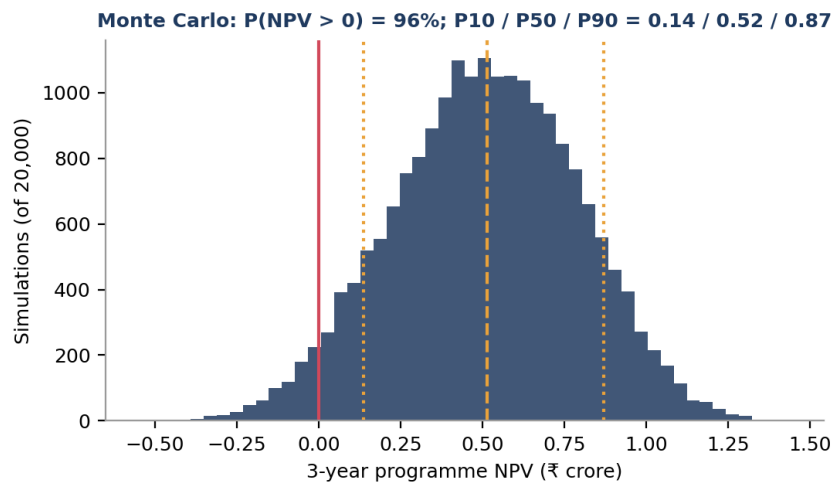


Figure 6.4 Monte Carlo (20,000 runs): each initiative realises 40%–120% of its base benefit (triangular, mode 100%), a common execution factor of 85%–110% applies to all, and costs run 95%–150% of budget (mode 110%). Steady-state net benefit P10 / P50 / P90 = ₹0.70 / 0.89 / 1.06 cr; the base case (₹1.11 cr) sits near the top of this range, so it should be read as a target, not a forecast.

- **What the numbers say.** The programme is attractive but not risk-free: positive NPV in base, break-even in conservative on 3 years (positive on 5), negative in stress. 96% of simulations have positive 3-year NPV.
- **What has to be true.** About half the lost sales must be addressable by better replenishment, discounts must be reducible without losing more volume than assumed, and attrition must be allowed to do the headcount work.
- **Biggest uncertainty:** discount elasticity (I3). It is also the single biggest lever on margin, so it deserves a controlled test (matched stores, 8 weeks) before chain-wide rollout.

7. Strategy recommendations and roadmap

Rank	Initiative	Net ₹ cr/yr	Payback	Feas.	Risk	Wave	Owner
1	I1 Demand-driven replenishment & inventory right-sizing	0.57	8 mo	3	3	2 pilot, 3 scale	COO / Supply chain
2	I7 Vendor terms on low-margin categories	0.17	4 mo	3	2	1	Head of Procurement
3	I3 Discount governance & markdown discipline	0.15	8 mo	4	3	1	Head of Pricing
4	I4 Labour productivity & rostering	0.14	13 mo	3	3	2	Head of Store Ops
5	I6 Rent renegotiation at high-burden stores	0.04	9 mo	2	2	1 start	Head of Property / CFO
6	I2 Store-level assortment tail trim	0.03	29 mo	4	2	2	Head of Category
7	I5 Shrinkage control at hotspot stores	0.00	51 mo	4	1	1	Store Ops / Loss prevention

Table 7.1 Priority list ranked by net annual benefit, then sequenced by feasibility and risk (Figure 7.1).

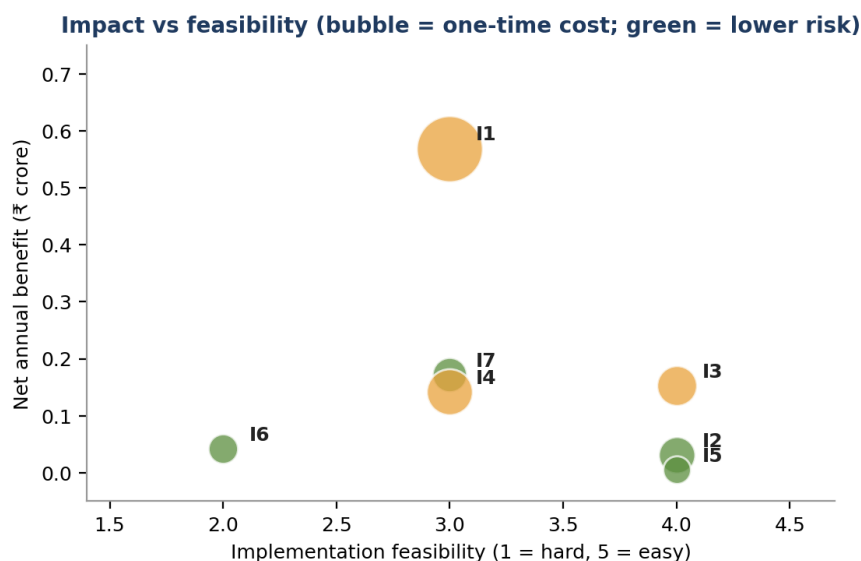


Figure 7.1 Impact vs feasibility. Bubble size = one-time cost. I1 is the largest prize but needs a pilot; I7, I5, I3 and I6 are fast and cheap.

Roadmap with stage gates

Wave	Initiatives	Gate / KPI
1 Months 0-3 Stop the leaks	I7 vendor terms, I3 discount caps at POS, I6 rent talks (S04, S17), I5 shrink controls at S11/S14	Discount rate $\leq$ FY25 +2 pp; shrink at S11/S14 $< 1.1\%$
2 Months 3-9 Fix the base	I4 rostering and attrition-led headcount, I2 range trim, I1 pilot in 4 stores	Pilot: fill rate $\geq 95\%$, stock cover -10% , sales not down
3 Months 9-15 Scale	I1 chain roll-out; store review of S04/S17 at lease events	Sales per labour hour $\geq$ ₹1,428 in the 6 stores in scope

Operating KPIs to track monthly (Power BI page 1): operating margin; gross margin and discount rate vs FY25 cap; inventory turns / DIO; estimated lost-sales % of demand; sales per labour hour in the six flagged stores; shrinkage % at S11 and S14; rent % at S04 and S17.

Risks and mitigations

Risk	Why it matters	Mitigation
Discount elasticity higher than assumed	Largest swing factor; volume loss could erase I3 benefit	Matched-store test before roll-out; guardrail not a hard cap; monitor units weekly
Replenishment model underperforms	I1 is 51% of gross benefit	Pilot in 4 stores (2 flagged, 2 healthy); month-6 go/no-go; keep manual override for top 100 lines
Service levels fall with lower headcount	Conversion could drop at the six stores	Attrition-led, roster to footfall; hold conversion KPI; floor of 4.5 FTE
Landlord refuses rent changes	I6 rests on negotiation	Treated as upside; decision on S04/S17 deferred to lease events
Vendor push-back on terms	Could affect availability of staples	Trade volume commitments for terms; dual-source top staples
Data quality and adoption	Demand history drives targets	Clean 24-month history first; weekly review of exceptions

Deliberately not recommended

- **Store closure.** All 20 stores are profitable after allocated HQ cost (lowest is S04 at 8.5%); closing a store removes its contribution but leaves HQ cost. Revisit S04 and S17 only at lease events if rent talks fail.
- **Across-the-board headcount or marketing cuts.** 14 stores are healthy; cuts would hit service where it works.
- **Delisting thin-margin staples.** They drive traffic; fix terms and discount discipline instead.
- **Not modelled (upside):** freight consolidation (freight is 1.9% of sales), private label in staples, dynamic markdown for apparel.

Appendix A. Assumptions register

Area	Assumption (base)	Basis / range tested
Inventory carrying cost	18% a year of average inventory (12% capital + 6% storage and handling)	15%-22% (tornado)
Target cover days	Staples 20, Beverages 26, Personal Care 36, Home 62, Apparel 70, Electronics 40, Toys 46, Health 38	About 85-90% of FY25 cover by category; +15% / -10%
Release of excess stock	75% of calculated excess released (case packs, commitments)	50%-90%
Lost-sales recovery	40% of estimated lost units; 1.3% of recovered revenue as variable cost	25%-60%
Write-offs	50% reduction on lines holding >1.5x target stock	Not flexed
Range trim (I2)	Delist store-SKU lines with negative post-I1 contribution; 40% sales transfer; 30% clearance loss	Transfer 20%-60%
Discount policy (I3)	Cap = FY25 category rate + 2 pp; recapture 70% of leakage (elasticity 0.5) and 35% of creep (elasticity 1.5)	Elasticity 1.0-2.5; recapture ±50%
Labour (I4)	Target sales per FTE = 90% of store median, floor 4.5 FTE; 60% captured via attrition; 3% roster saving elsewhere	40%-80% capture
Shrinkage (I5)	Stores ≥0.3 pp above best-quartile rate; 45% of excess captured; tech option tested and rejected	Not flexed (small)
Rent (I6)	Stores with rent >8% of sales; 12% reduction; 60% success	Success 30%-80%
Vendor terms (I7)	1.0% of COGS in Staples, Electronics Accessories, Beverages	0.5%-1.5%
Programme costs (₹ lakh)	One-time / running: I1 30 / 10; I2 6 / 0; I3 10 / 3; I4 12 / 5 (+₹0.4 lakh per FTE redeployed); I5 ₹1 lakh + ₹0.5 lakh/yr per hotspot store (process version); I6 ₹1.5 lakh per store; I7 6 / 0; plus 5% of released stock as clearance cost	Costs +15% / +30% in scenarios
Ramp (Y1 / Y2 / Y3)	I1 35/85/100%; I2 50/100/100; I3 70/100/100; I4 40/90/100; I5 60/100/100; I6 50/100/100; I7 40/90/100	Scenario multipliers on Y1-Y3
Finance	Discount rate 12%; 3-year NPV headline; working-capital release excluded from NPV (capital cost already in 18% holding rate); years 4-5 flat	5-year NPV also shown

Appendix B. SQL used (SQLite; also runs on SQL Server / PostgreSQL with minor syntax changes)

Two views carry the logic: **v_sku_store_fy** (store × SKU × fiscal year, including the lost-sales estimator) and **v_store_pnl** (store × year P&L with holding cost and HQ allocation). Queries below use CTEs, window functions (RANK, NTILE, SUM OVER) and conditional ratios.

```
CREATE VIEW v_sku_store_fy AS
SELECT f.store_id, f.sku_id, k.category, f.fy,
       SUM(f.units_sold) units, SUM(f.gross_sales) gross, SUM(f.net_revenue) revenue, SUM(f.cogs) cogs,
       SUM(f.logistics_cost) logistics, SUM(f.writeoff_value) writeoffs,
       SUM(f.closing_inv_value)/12.0 avg_inv_value, SUM(f.closing_inv_units)/12.0 avg_inv_units,
       SUM(f.stockout_days) stockout_days,
       SUM(f.units_sold*1.0/(d.days-f.stockout_days))*f.stockout_days lost_units_est
FROM fact_sales_inventory f
JOIN dim_sku k USING (sku_id) JOIN dim_date d USING (month)
GROUP BY f.store_id, f.sku_id, k.category, f.fy;

CREATE VIEW v_store_pnl AS
WITH s AS (SELECT store_id, fy, SUM(revenue) revenue, SUM(cogs) cogs, SUM(logistics) logistics,
                  SUM(writeoffs) writeoffs, SUM(avg_inv_value) avg_inv
            FROM v_sku_store_fy GROUP BY store_id, fy),
     o AS (SELECT store_id, fy, SUM(rent) rent, SUM(staff_cost) staff, SUM(utilities) utilities,
                  SUM(marketing) marketing, SUM(shrinkage) shrinkage, SUM(other_opex) other_opex,
                  SUM(transactions) txns, SUM(footfall) footfall, AVG(fte) fte, SUM(staff_hours) hours
            FROM fact_store_ops GROUP BY store_id, fy)
SELECT s.store_id, s.fy, s.revenue, s.cogs, s.logistics, s.writeoffs, s.avg_inv,
       0.18*s.avg_inv hold, o.rent, o.staff, o.utilities, o.marketing, o.shrinkage, o.other_opex,
       o.txns, o.footfall, o.fte, o.hours,
       h.hq_cost*s.revenue/SUM(s.revenue) OVER (PARTITION BY s.fy) hq
FROM s JOIN o USING (store_id, fy) JOIN fact_hq_cost h USING (fy);
```

-- company_pnl

```
SELECT fy, SUM(revenue) revenue, SUM(cogs) cogs, SUM(revenue-cogs) gross_margin,
       SUM(logistics) logistics, SUM(writeoffs) writeoffs, SUM(hold) holding, SUM(rent) rent, SUM(staff) staff,
       SUM(utilities) utilities, SUM(marketing) marketing, SUM(shrinkage) shrinkage, SUM(other_opex) other_opex, SUM(hq) hq,
       SUM(revenue-cogs-logistics-writeoffs-hold-rent-staff-utilities-marketing-shrinkage-other_opex-hq) op_profit
FROM v_store_pnl GROUP BY fy;
```

-- store_ranking

```
WITH p AS (
  SELECT store_id, fy, revenue, revenue-cogs gm,
         revenue-cogs-logistics-writeoffs-hold-rent-staff-utilities-marketing-shrinkage-other_opex store_contrib,
         revenue-cogs-logistics-writeoffs-hold-rent-staff-utilities-marketing-shrinkage-other_opex-hq op_profit
  FROM v_store_pnl)
SELECT a.store_id, s.store_name, s.format, a.revenue, a.gm*1.0/a.revenue gm_pct,
       a.store_contrib*1.0/a.revenue contrib_pct, a.op_profit, a.op_profit*1.0/a.revenue op_margin,
```

```

b.op_profit*1.0/b.revenue op_margin_py,
RANK() OVER (ORDER BY a.op_profit*1.0/a.revenue DESC) margin_rank,
NTILE(4) OVER (ORDER BY a.op_profit*1.0/a.revenue DESC) quartile
FROM p a JOIN p b ON a.store_id=b.store_id AND a.fy='FY26' AND b.fy='FY25'
JOIN dim_store s ON s.store_id=a.store_id
ORDER BY margin_rank;

-- category_profit

WITH c AS (
    SELECT category, SUM(revenue) revenue, SUM(revenue-cogs) gm, SUM(logistics) logistics, SUM(writeoffs) wo,
        0.18*SUM(avg_inv_value) hold, SUM(cogs)*1.0/SUM(avg_inv_value) turns, SUM(avg_inv_value) inv,
        1-SUM(revenue)*1.0/SUM(gross) disc_rate, SUM(loss_units_est*revenue/units) lost_rev,
        SUM(loss_units_est*(revenue-cogs)/units) lost_gm
    FROM v_sku_store_fy WHERE fy='FY26' GROUP BY category)
SELECT category, revenue, revenue*1.0/SUM(revenue) OVER () rev_share, gm*1.0/revenue gm_pct,
    gm-logistics-wo-hold contribution, (gm-logistics-wo-hold)*1.0/revenue contrib_pct,
    (gm-logistics-wo-hold)*1.0/SUM(gm-logistics-wo-hold) OVER () contrib_share, turns, 365.0/turns dio, disc_rate, lost_rev, lost_gm
FROM c ORDER BY revenue DESC;

-- sku_contribution

SELECT sku_id, category, SUM(revenue) revenue, SUM(revenue-cogs) gm, SUM(revenue-cogs-logistics-writeoffs)-0.18*SUM(avg_inv_value) contribution,
    (SUM(revenue-cogs-logistics-writeoffs)-0.18*SUM(avg_inv_value))*1.0/SUM(revenue) contrib_pct,
    SUM(cogs)*1.0/SUM(avg_inv_value) turns
FROM v_sku_store_fy WHERE fy='FY26' GROUP BY sku_id, category
ORDER BY contrib_pct;

-- inventory_by_category

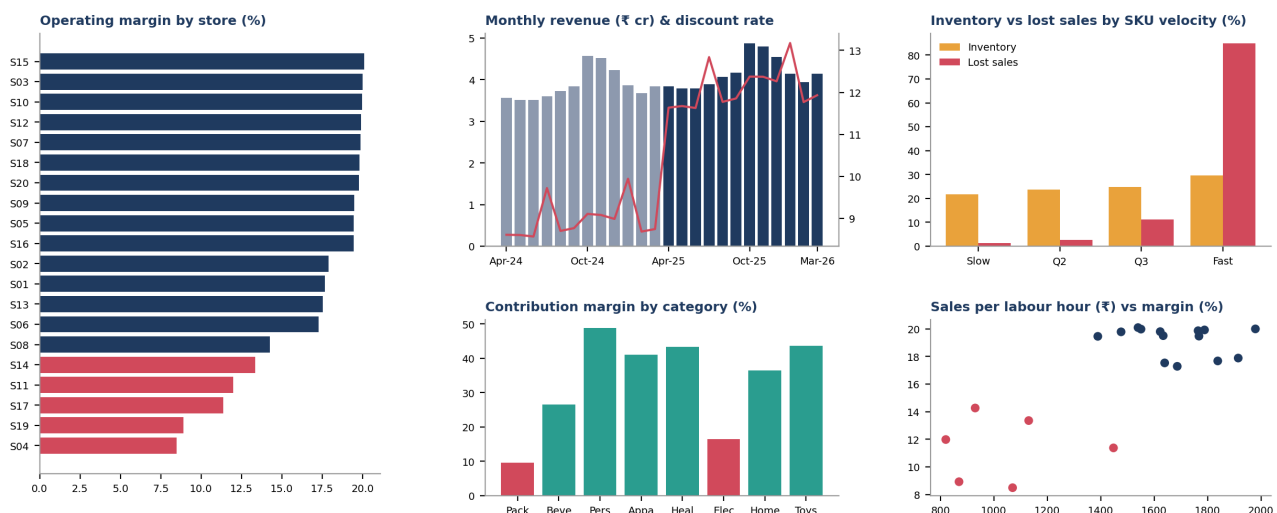
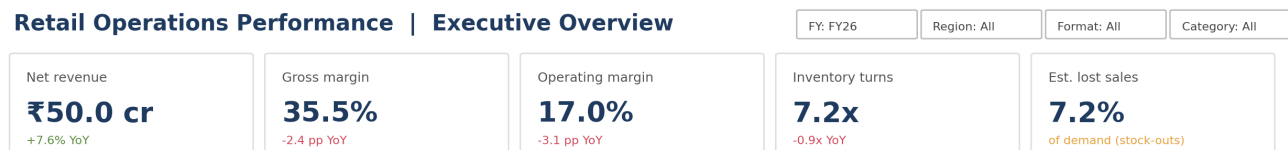
SELECT category, fy, SUM(cogs)*1.0/SUM(avg_inv_value) turns, 365.0*SUM(avg_inv_value)/SUM(cogs) dio,
    SUM(avg_inv_value) avg_inv, SUM(writeoffs) writeoffs, SUM(stockout_days)*1.0/COUNT(*)/12 stockout_days_per_month
FROM v_sku_store_fy GROUP BY category, fy ORDER BY category, fy;

```

Appendix C. Power BI dashboard specification

Data model (star schema). Load the six CSVs. Relationships: fact_sales_inventory[store_id] → dim_store; [sku_id] → dim_sku; [month] → dim_date (convert to a real date in Power Query, add Month Start); fact_store_ops[store_id, month] → dim_store, dim_date; fact_hq_cost[fy] → dim_date[fy]. All single-direction, many-to-one.

Retail Operations Performance | Executive Overview



Illustrative mock-up of Power BI page 1 using the case-study data (rendered in matplotlib); the .pbix is built from the CSVs and DAX in Appendix C.

Figure C.1 Mock-up of Page 1 using this dataset.

Key DAX measures

```

Net Revenue = SUM ( fact_sales_inventory[net_revenue] )
COGS = SUM ( fact_sales_inventory[cogs] )
Gross Margin % = DIVIDE ( [Net Revenue] - [COGS], [Net Revenue] )
Avg Inventory Value =
    AVERAGEX ( VALUES ( dim_date[month] ), CALCULATE ( SUM ( fact_sales_inventory[closing_inv_value] ) ) )
Inventory Holding Cost = 0.18 * [Avg Inventory Value] -- parameterise with a What-if slicer
Inventory Turns = DIVIDE ( [COGS] * 12 / DISTINCTCOUNT ( dim_date[month] ), [Avg Inventory Value] )
Lost Revenue (est) =
    SUMX ( fact_sales_inventory,
        DIVIDE ( fact_sales_inventory[units_sold], RELATED ( dim_date[days] ) - fact_sales_inventory[stockout_days] )
        * fact_sales_inventory[stockout_days]
        * DIVIDE ( fact_sales_inventory[net_revenue], fact_sales_inventory[units_sold] ) )
HQ Allocation =

```

```

DIVIDE ( [Net Revenue], CALCULATE ( [Net Revenue], ALLSELECTED ( dim_store ) ) ) * SUM ( fact_hq_cost[hq_cost] )
Operating Profit =
[Net Revenue] - [COGS] - SUM ( fact_sales_inventory[logistics_cost] ) - SUM ( fact_sales_inventory[writeoff_value] )
- [Inventory Holding Cost] - SUM ( fact_store_ops[rent] ) - SUM ( fact_store_ops[staff_cost] )
- SUM ( fact_store_ops[utilities] ) - SUM ( fact_store_ops[marketing] ) - SUM ( fact_store_ops[shrinkage] )
- SUM ( fact_store_ops[other_opex] ) - [HQ Allocation]
Operating Margin % = DIVIDE ( [Operating Profit], [Net Revenue] )
Revenue per Labour Hour = DIVIDE ( [Net Revenue], SUM ( fact_store_ops[staff_hours] ) )
Rent % of Revenue = DIVIDE ( SUM ( fact_store_ops[rent] ), [Net Revenue] )
Revenue YoY % = DIVIDE ( [Net Revenue] - CALCULATE ( [Net Revenue], SAMEPERIODLASTYEAR ( dim_date[Month Start] ) ),
CALCULATE ( [Net Revenue], SAMEPERIODLASTYEAR ( dim_date[Month Start] ) ) )

```

Report pages

- **P1 Executive overview:** KPI cards, store margin ranking, monthly revenue with discount-rate line, category contribution, velocity-quartile inventory vs lost sales.
- **P2 Store performance:** league table, cost heatmap (matrix with conditional formatting), productivity scatter, drill-through to store.
- **P3 Product profitability:** revenue vs contribution by category, SKU contribution ranking with a "below 8%" flag, discount-rate trend.
- **P4 Inventory and availability:** turns and DIO by category, overstock vs stock-out scatter by SKU, write-offs.
- **P5 Scenario simulator:** What-if parameters (recovery %, elasticity, carrying cost, delivery %) driving a waterfall from FY26 profit to proposed profit; scenario selector for Base / Conservative / Stress.

Appendix D. Reproducibility and Excel companion

- The CSV extracts, SQL (queries.sql), data generator and model code are supplied in the accompanying archive. Re-running generates identical data (seed 2026).
- Suggested Excel workbook: *Assumptions* (Appendix A as inputs), *Initiatives* (one row per initiative with benefit, one-time, running cost, ramp), *CashFlow* (Years 0-5 with NPV/IRR and a scenario switch), *Sensitivity* (data table on recovery %, elasticity, delivery %). The model in this document can be re-keyed there in under an hour; the headline figures in Table 6.2 provide the check totals.

Appendix E. Resume statements with actual results

Retail Operations Transformation and Profitability Optimization | Independent Consulting Case Study

- Analysed a simulated 20-store, 80-SKU retail dataset (38,400 store-SKU-month records, FY25-FY26) using SQL, Python and Power BI specifications; showed that a 7.6% revenue increase coincided with a 3.1 pp operating-margin decline (20.1% → 17.0%), with deeper discounting explaining ~70% and inventory carrying and write-offs a further 0.4 pp.
- Diagnosed six underperforming stores (≈₹1.00 cr annual profit gap vs peers) across four root causes (rent burden, over-staffing, shrinkage, discount leakage), and found Staples and Electronics Accessories generate 30% of revenue but 11% of contribution; quantified ₹3.9 cr of estimated stock-out lost sales alongside 22% of inventory tied in the slowest sales quartile.
- Built a seven-initiative scenario model with ramp, one-time and running costs: ₹1.11 cr base-case run-rate benefit (margin 17.0% → 18.8%), ₹1.09 cr 3-year NPV, 17-month payback; tested with conservative and stress cases, sensitivity and a 20,000-run Monte Carlo (P(NPV>0) = 96%; break-even at 54% benefit delivery).
- Prepared an executive deck and recommendations prioritised by financial impact, feasibility and risk, with a stage-gated roadmap and a Power BI dashboard specification (data model, DAX measures, five pages).

Say clearly in interviews that the data is synthetic and the scenario results are modelled estimates under stated assumptions.

Appendix F. Limitations and next steps

- **Synthetic data.** Problems were engineered, so the size of each gap reflects the generator, not a real business. The value is in the method, the traceability from SQL to initiative, and the discipline of the downside tests.
- **Lost sales are estimated, not observed** (stock-out-day extrapolation). Real projects should validate with POS availability data or A/B pilots.

- **Elasticities and supplier response are assumptions.** They drive I3 and I7 and should be tested, not trusted.
- **No seasonality in the programme ramp;** years 4-5 are held flat in the 5-year view; no inflation or tax.
- **Next steps with real data:** add promotion calendar and price history to estimate elasticity; SKU-level supplier cost files; store footfall by hour for rostering; lease terms for I6.