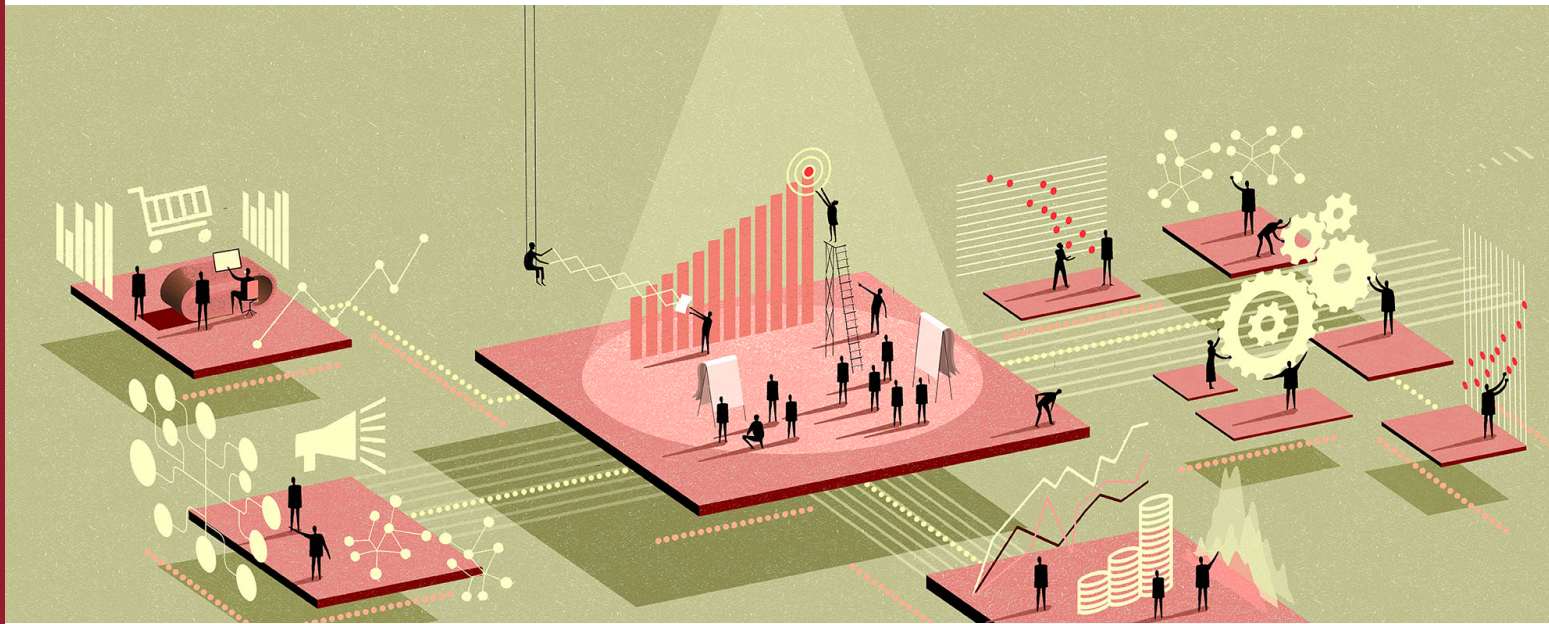




Death by a Thousand Cuts: Why S&OP Underperforms, and How Culture, Technology and AI Can Fix It

The theory of good S&OP is very well known, though few companies run it well. Our team examined why, across FMCG and pharma networks in EMEA, METAP and India, and what the arrival of AI will actually change.

If the theory of S&OP is so well established, why does it not translate into execution?

The barrier to good S&OP execution is simply very high — not because the standards are undefined or the will is absent, but because the problems are complex and capacity is consumed by daily business. The root causes split evenly between culture and technology, and both produce the same result: margin eroded from many sources at once — Death by a Thousand Cuts.

What will AI do? Widen the gap between the organizations still below the integration barrier and those that have crossed it. It will either accelerate a company's culture, technology and capability, or automate its errors and arguments faster.

In the AI era the durable asset is the capability. Buying technology or training is not a shortcut. Building the capability to get beyond the integration level is.

So where does S&OP actually stand today?

Underperforming, consistently, and for reasons that repeat almost unchanged from one company to the next.

S&OP is measurably underperforming

Every FMCG board has an S&OP deck, a digital roadmap and a service-level target. The theory is well documented and has not changed materially in twenty years. Much of the required planning capacity already exists in today's technology stack. Yet the results do not follow.

Three independent measures illustrate this. The global shelf out-of-stock rate sits at around 8.3% — retail sales lost because the product is not on the shelf. Around 72% of trade promotions fail to break even on ROI when measured accurately. And 60% of supply chain digital-adoption efforts are forecast to fail to deliver their promised value by 2028.

Others point the same way — forecast accuracy, OTIF, expedited freight. It is the sum of them that makes S&OP underperformance critical.



Diagram 1: Illustrative measures of S&OP underperformance

None of these is a technology failure. Each is the cumulative cost of decisions not made, not followed up and not measured.

Is the GCC any different from the global picture?

Not better, and not for the reasons usually given. A survey of GPCA member companies found that 54% had not launched a digital supply chain strategy or formalized an execution plan, and fewer than a third had broadly implemented technology across their supply chains. The sample is small and sector-specific — 24 GCC chemicals companies, surveyed in 2022 — so it indicates a direction rather than a regional benchmark, and it matches what our team sees in the field.

What is distinctive about the region is the spread rather than the average. Rapid growth and heavy capital investment have widened the gap between sectors rather than closing it. Oil and gas, chemicals, large-scale manufacturing and organized FMCG plan at a materially higher maturity than retail, food service, distribution and contract manufacturing, where planning still runs in spreadsheets beside an ERP never configured to plan.

What are the symptoms of underperformance?

Nine out of ten of the supply chains our team has examined in previous projects show the same set of interdependent symptoms.

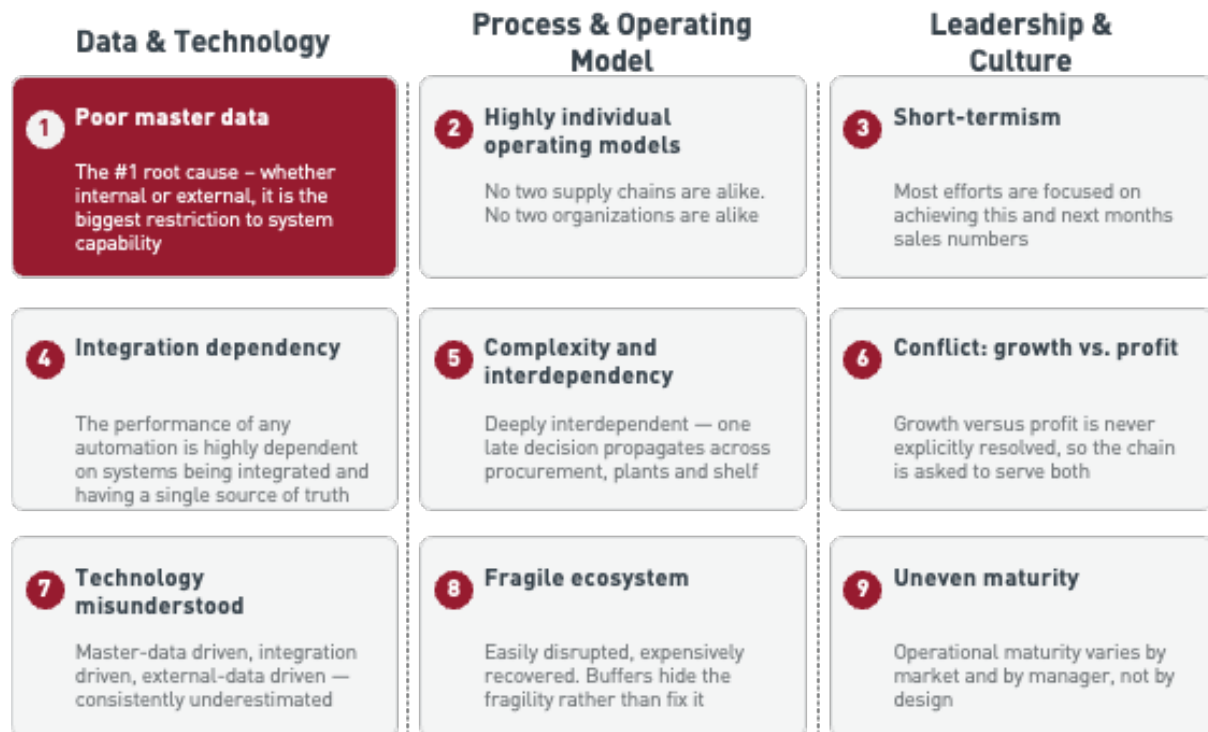


Diagram 2: Symptoms of S&OP underperformance

Although all the symptoms are interrelated, they can be grouped into three groups to be better understood.

- **Data & Technology:** poor master data is the symptom we see most often, and it propagates through every system S&OP depends on. Because the technology is complex, its capabilities and dependencies are widely misunderstood at the point where strategic decisions are made.
- **Process & Operating Model:** operating models are company specific. The failure occurs when S&OP theory is not adapted far enough to the individual model to account for the real complexity and interdependency of the business. The result is a process that is both fragile and easily disrupted.
- **Leadership & Culture:** the monthly number has to be met. In the heat of delivery, good practice is knowingly set aside, each time for a defensible reason. The permanent conflict is between sustainable growth and short-term target achievement, and it shows up as uneven adherence across the organization.

In most of these companies much of the required planning capability already exists somewhere in the installed technology stack. The limiting factors are configuration, data quality, integration and operating discipline.

The underlying root causes

Simply put, the underlying root causes are split almost evenly between culture and technology. The application stack itself is rarely the constraint. The discipline in data preparation, configuration and integration is.

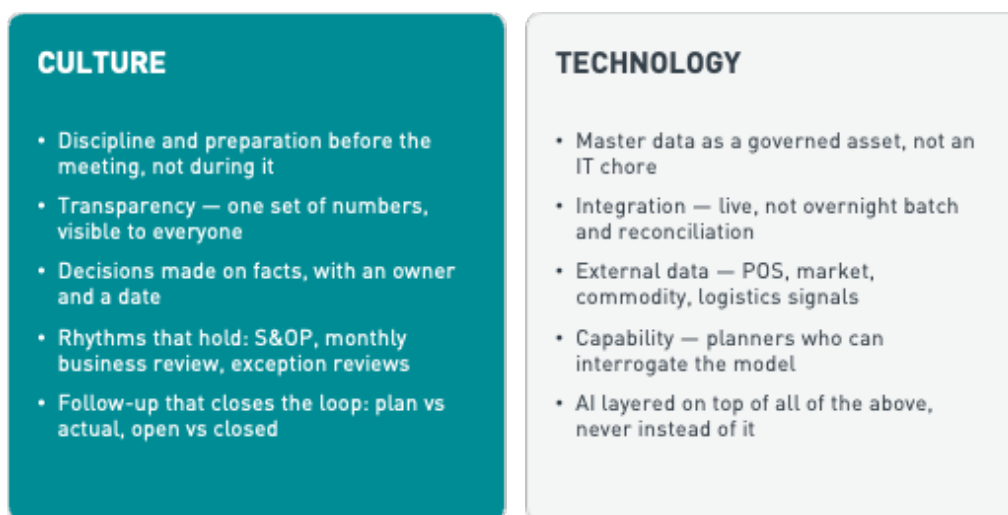


Diagram 3: Root causes of S&OP underperformance

Buy the technology without the culture and you have automated an argument.

If the symptoms of S&OP underperformance are this consistent, what is the underperformance costing?

More than most organizations believe, because the leakage occurs right across the value stream, and no single owner ever sees the true whole of it.

The leakage is right across the value stream

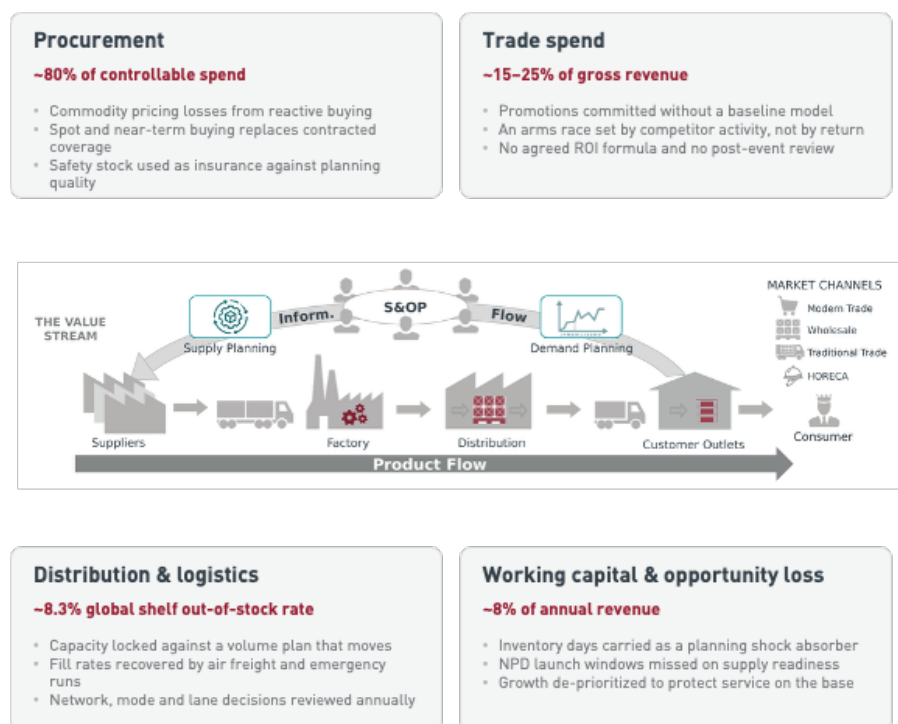


Diagram 4: Illustrative losses due to S&OP underperformance

- **Procurement:** around 80% of controllable spend — spend over and above commodity and contract baselines — is directly affected by S&OP failures. Raw materials account for 70 to 90% of unit cost, so reactive buying feeds straight through to margin. Safety stock is used as the buffer, and carries its own cost.
- **Distribution & logistics:** the most visible effect. If forecast volume keeps moving at the level of detail that drives routing and capacity, logistics resources cannot be matched to it. The result is overstock, stock-outs and underutilized assets.
- **Trade spend:** at roughly 15 to 25% of gross revenue, one of the largest exposures to weak planning. The data is too weak to forecast promotions accurately, the models are not fitted to individual cases, and the post-promotion review is weak or absent. It also weakens the bargaining position with customers and suppliers.

- Working capital & opportunity loss: stock used as a planning shock absorber ties up working capital and carries its cost. The larger cost is the lack of agility to hit launch windows and react to market movement.

How much is that worth in margin terms?

Modeled on an indexed gross margin of 100, the components sum to approximately ten indexed margin points. The largest is ineffective trade spend at 3.2 points — close to a third of the total, and the one most often treated as a marketing question rather than a planning one.

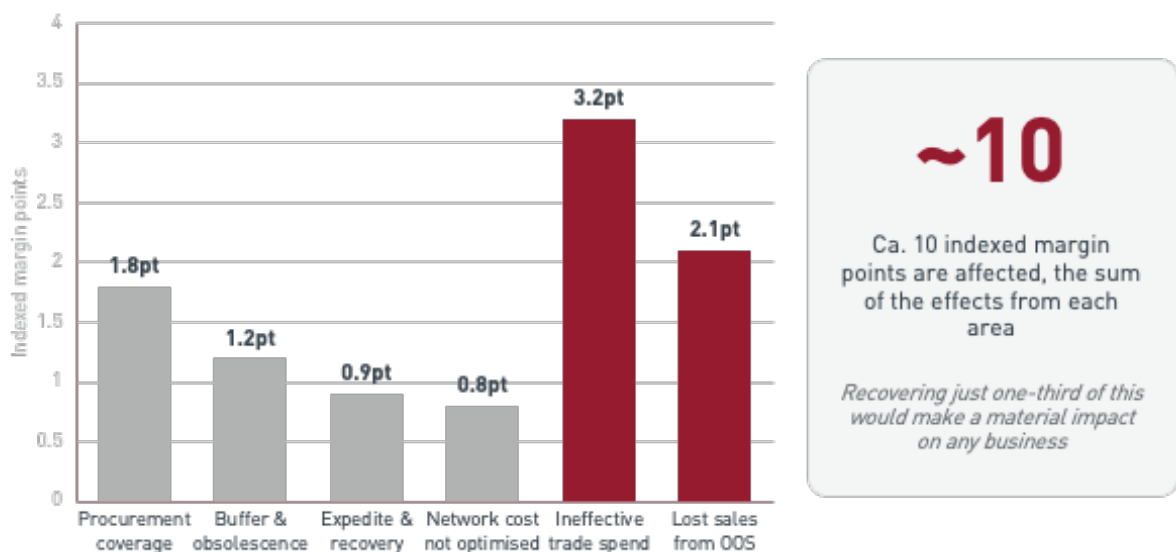


Diagram 5: Effect of illustrative losses on margin

These are illustrative figures on a representative cost structure, not a measured benchmark. What matters is the order of magnitude and the spread across categories — death by a thousand cuts. Recovering a third of it would be material to any business of scale.

So why is the gap to good S&OP execution so hard to close?

Not for want of intent. The barrier to change is high, and it is high for reinforcing reasons that appear together in almost every organization we assess.

- The pressure to deliver the monthly number is relentless, and it consumes the capacity that would otherwise fix the process or the system. Compromises are made to reach the target — each defensible on the day, each a small cut.
- The problems are complex and interrelated, so a fix in one area does not hold on its own. Better decision templates are undone by weak forecast accuracy upstream, and the improvement disappears before anyone can show it worked.

- Resources are limited, in capability and in manpower, to address several root causes at once. The people able to do the work are the same people fully consumed by delivery.
- Data accuracy is low, so improvement work becomes guesswork rather than an action with a measurable result. Without a reliable baseline it is hard to prove anything changed, and harder to defend the effort against next month's pressure.

Taken together they produce a barrier high enough to stop well-led organizations that intend to cross it. The gaps persist not through indifference but because closing any one of them in isolation does not hold.

The gap is not a knowledge gap. It is an execution gap

The distinction determines where an organization should spend next. The deficit is not knowledge, and it is not intent. What is missing is the sustained capacity to execute, which cannot be bought and takes several cycles to establish. Technically, the capability is usually already installed, so the spend belongs in data quality, configuration and integration rather than in another application.

If the theory is not the missing part, what does it actually take to run good S&OP?

Getting over the integration barrier. Below it the challenges compound and improvement does not hold. Above it, improvement — and AI — accelerate.

The integration barrier

Capability arrives in sequence, not in a single step. Each level is the precondition for the one above it, so an organization cannot enter the ladder halfway up, whatever technology it buys.

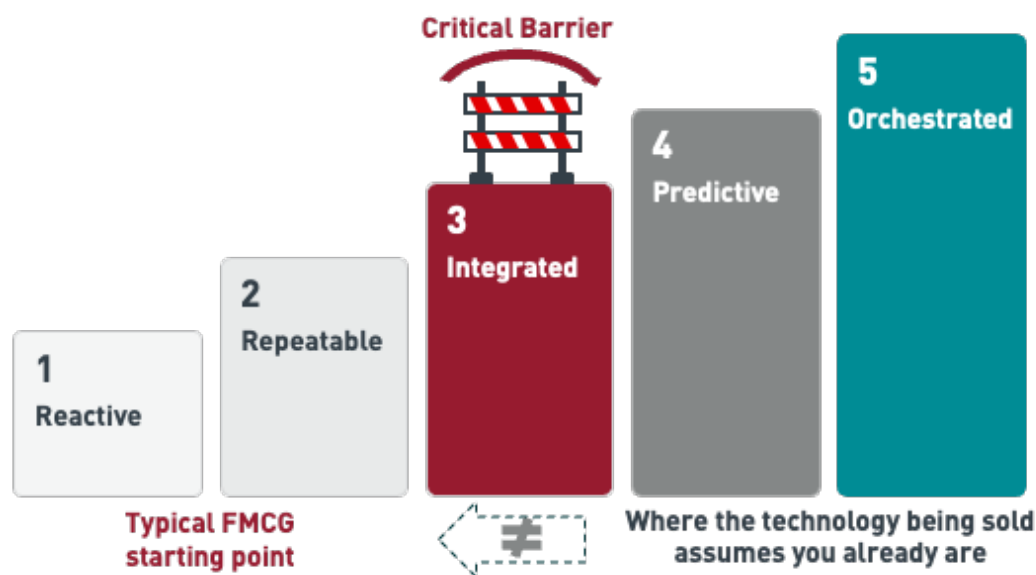


Diagram 6: The S&OP maturity ladder and the integration barrier

Below the barrier the difficulties above compound. Numbers are contested rather than trusted, so no improvement can be measured, and a fix in one function is undone by a weakness in another before anyone can show it worked. Work below the barrier does not accumulate; it is spent and then lost.

Above it, the same effort behaves differently. One plan and one set of numbers give a stable measurement base, so an improvement can be proven and defended rather than argued about. Each gain builds on the last instead of being absorbed.

The twelve success factors that carry an organization across

These factors are not drawn from a published maturity model. They are what our teams have repeatedly found present in organizations that made the transition, and missing in those that stalled below it.



Diagram 7: The twelve success factors — six cultural, six technical

Both sets have to develop in parallel and arrive together. A technical workstream ahead of the process delivers capability nobody uses; a process workstream ahead of the data stays manual. It is uniformity that carries an organization over the barrier, not the height of any single factor.

AI maturity moves in parallel. It does not short-cut the climb

AI capability follows the same ladder. It moves with and is enabled by culture and technology and subject to the same rule: it cannot run ahead of the level the organization is actually at.

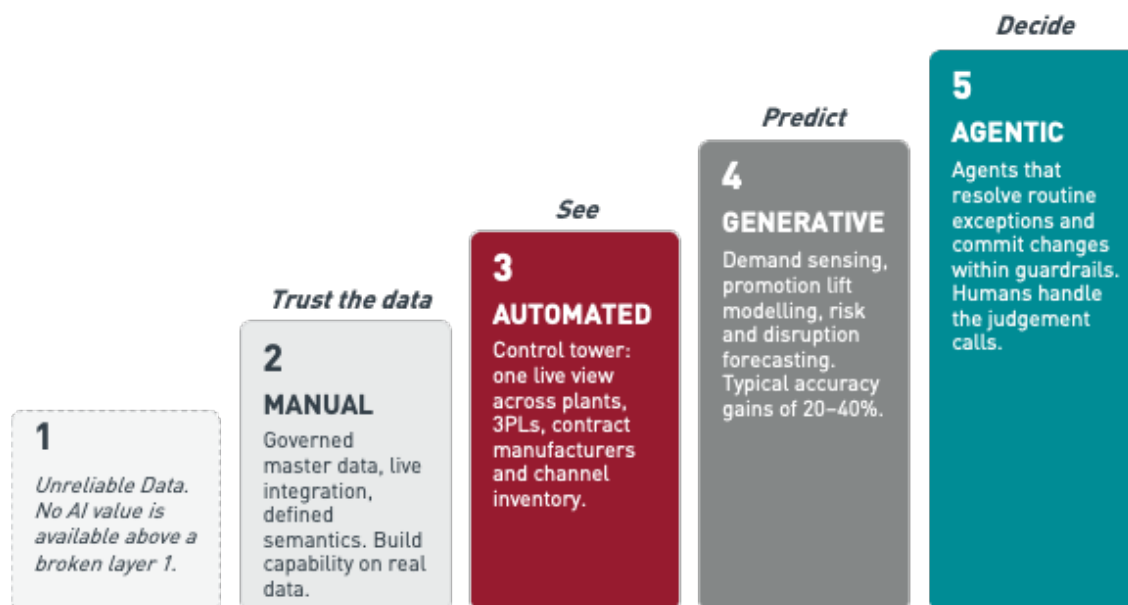


Diagram 8: The AI capability ladder

Below integration the constraint is never the model. It is the data and the workflow underneath it. An agent applied there does not resolve the errors beneath it; it

formalizes and scales them, and automates the wrong answer faster than any planner could.

Above integration the same tools compound. One plan and a stable measurement base give AI something reliable to act on, and each use case builds on the last. AI cannot shorten the climb — it accelerates an organization already moving, and widens the gap for one that is not.

How we raise capability in practice

We use those levels to sequence the work. Tools and methods are installed in the order an organization can absorb them, and the twelve factors are raised together rather than one at a time. An organization's real level is the weakest of the twelve, not the average.

So what should an organization actually invest in?

The capability to run and adapt the system, built through implementation rather than through instruction.

The durable asset is the capability, not the artifact

Each conventional alternative leaves something behind, and in every case it is an artifact rather than an ability. The pace of change is widening the gap between organizations that can compound improvement and those that cannot.

THE ALTERNATIVES

BUY A TOOL

- Obsolete in roughly 24 months as the market converges
- Encodes the vendor's rules, not yours
- Every change becomes a change request

You own a licence.

BUY TRAINING

- Procured on lowest cost, against no quality standard
- Taught away from the work, so it does not survive contact
- Knowledge without an artifact decays within a quarter

You own a certificate.

BUY DELIVERY

- The work gets done; the judgement leaves with the Consultant
- Documentation says what was built, never why
- The same capability is re-bought next year

You own a report.

Diagram 9: What organizations usually buy, and what each leaves behind

In the AI era the durable competitive asset is not the tool. It is the capability to adapt it, because the tool will be replaced and the capability will not.

How is capability actually built?

Capability is built through implementation, and ideally through repeated implementation across successive cycles. People internalize change by experiencing a different result first-hand. That is how the new way of running S&OP becomes the way it is done.

Sequencing decides whether the work is sustainable, and it is the part most often compressed. Each phase makes the next possible: there is little value in designing a

process around data that has not been corrected, and none in correcting data for a process nobody has agreed to run.

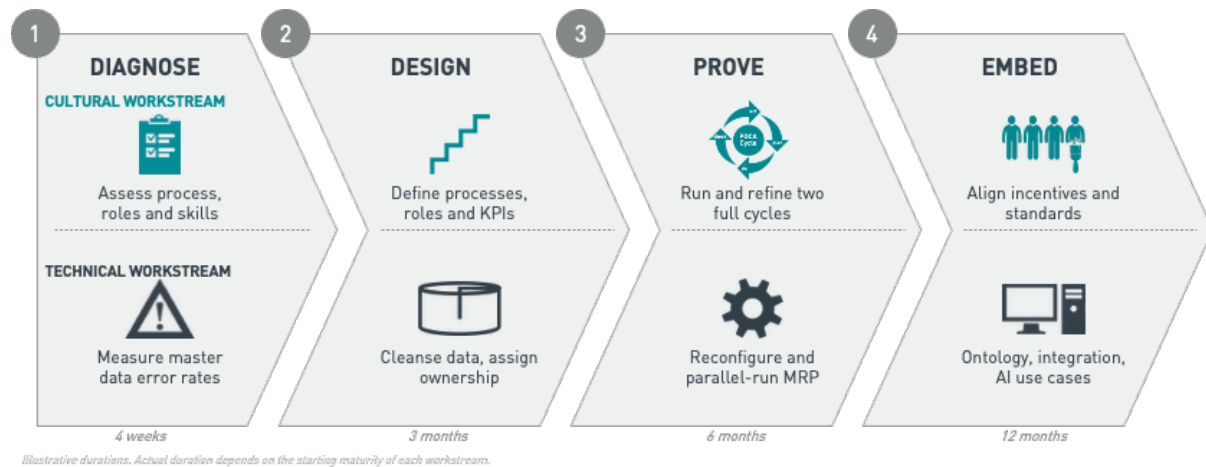


Diagram 10: The implementation roadmap in four phases

What does Four Principles do differently?

Four Principles' Lean roots are about capability transfer through implementation. Both workstreams are built and run with the people the process affects. The diagnosis is done with them, so they see the gaps and the causes. The design is built with them, including the detail only they know. Then we implement together and refine across successive cycles, and we leave when they can carry it. What they are left with:

- One integrated S&OP operating model
- Clear decision rights and governance
- Trusted master data and planning logic
- Integrated KPIs and value tracking
- Implemented automation / AI use cases
- Trained internal capability to maintain and improve

What matters about the list the organization is left with is not its length. It is that every item on it is something their own people can operate and improve without us.

Does this work in practice, or only on a slide?

The test is what the client team is able to build and then run without us.

So does the approach work?

The approach has only been proven the way that counts: through implementation, in organizations that had to keep delivering while they changed. The first engagement shows what a team can build once it is over the barrier; the second shows what it takes to get there.

Case Study 1

Client A: FMCG and Pharma, 42 markets and 75 customers

Starting Point: One planner owned the monthly demand plan across 42 markets and 75 customers, but assembling and verifying the inputs drew in three people for eight to nine days every cycle, and finished so late that the supply review was debating numbers a month out of date. Forecast quality varied by market and by manager. No model was owned and no rule was written down.

What was done in each phase:

- Diagnose: The planning data was screened before anything was designed. 1,200 items were checked and 456 were found without a bill of materials, in about an hour.
- Design: Master data was named field by field and ownership assigned, with progress visible daily. It reached a state fit for automation in three weeks.
- Prove: Six domain-blind agents were built for demand validation, model selection, promotion control, supply, site mapping and production, then an orchestrator to enforce the calendar and a watchdog to flag tolerance breaches.
- Embed: The team took the cycle. Support fell back to review only.

Results: Working as one team with the consultants, eight to nine days of manual consolidation were removed from the cycle. Demand now closes on the 7th and supply on the 12th, enforced by the orchestrator rather than chased by a person. Tolerance breaches are flagged two months ahead with the P&L impact attached, while the tolerance can still be moved. IT provided the environment, the security framework and the APIs; everything above that line was built by the operating team — two people at half time — and the team now runs it.

Case Study 2

Company B: FMCG Packaging Manufacturer in the UAE, 500 employees



Starting Point: The company sat squarely at level 2. The cycle ran to a calendar, but nothing about it was integrated. Inputs were prepared by hand, forecasting was done in Excel at product group level only, and material requirements were calculated manually in aggregate, with the SKU breakdown done from experience. That produced overstock of slow movers and stock-outs of critical materials. MRP existed, and nobody trusted it.

What was done in each phase:

- Diagnose: Current-state processes were mapped, with a detailed analysis of material flows, data flows and how data was actually being gathered.
- Design: Each sub-process was designed in detail with the team, the required data points were identified, and the master data and bills of material were cleaned and reset.
- Prove: Planning and operational master data were aligned so that MRP could run twice per cycle and replenishment could be planned at SKU level. Users tested the new processes in ERP and MRP, and the data was refined through go-live.
- Embed: The procedures were documented as standard operating procedures, and forecast demand, replenishment and planned orders were integrated in the ERP — the structured data foundation for the AI layers above.

Results: Raw material inventory fell by 37% and logistics costs by 4.1%. Managing the raw material mix across suppliers reduced material cost by a further 1.7%. Stock-outs and expiries fell by 13% at the warehouse and 7% at customers.

This project took the company past the integration level of maturity — the climb from level 2 to level 3. By the end there was one reconciled set of planning data, an MRP engine the planners trusted enough to run the cycle on, and demand, replenishment and order data held in one place. That is the precondition for everything above the barrier.

What it comes down to – making S&OP happen every month

The problem is not knowing what good S&OP looks like. The problem is making it happen every month — on the date, at the required quality, with the data to support the decision and the discipline to follow it through.

None of this is a question of will. The organizations we work with know what good looks like and want to run it. What defeats them is the height of the barrier: sustained effort on two fronts at once, under monthly delivery pressure, with people and data already stretched.

The accumulation of gaps and small misses is what erodes margin — death by a thousand cuts. If this sounds familiar to you, we are happy to discuss your individual challenges and how the journey to level 3 and beyond could look for your organization.



James Ryan

Partner - Operational Transformation

+971 55 44 12 911

james.ryan@fourprinciples.com

Sources

Pygmalios, State of Retail 2026, and ParallelDots — global shelf out-of-stock rate.

NielsenIQ, 2025 — trade promotion ROI.

Gartner, May 2025 — supply chain digital-adoption outcomes to 2028.

Supply Chain Management Review, 2026 — forecast accuracy gain ranges.

Gulf Petrochemicals and Chemicals Association (GPCA), Digital Technology Adoption in Chemicals Supply Chains, 2022 — survey of 24 GCC member companies.

Four Principles practice observation and client project data across FMCG and pharma networks in EMEA, METAP and India. Margin impact figures are illustrative and modeled on an indexed gross margin of 100.

**Should you be interested to know more
about this or other topics, contact us at:**

UAE

PO Box 50261
DMC 8, Office 212
Dubai
United Arab Emirates
+971 (0) 5 5222 0577

Saudi Arabia

P.O. Box 12512 - 8052
Office 203
Building number 3574
Diplomatic Quarter, Riyadh
Saudi Arabia
+966 11 506 2203

info@fourprinciples.com