

WORKED EXAMPLE (ILLUSTRATIVE)

Data strategy for an industrial components manufacturer

From vision to scorecard, one level at a time

THE SO WHAT OF THIS DECK

See how a balanced posture splits effort between master data and planning analytics, and borrow its sequencing if your plants share the same data gaps.

THE SITUATION

A family-controlled maker of precision bearings, seals and drive components with about 3,200 people across five plants in two regions, selling to equipment makers directly and to operators through distributors. Margins are squeezed by volatile input costs and annual customer price-downs, while a large installed base of its parts sits in the field, unseen. The strategy must lift delivery and quality in the core without letting a new service business distract the plants.

What we decided at each level, and so what

Level	What we decided, and why	So what for the data strategy
Vision	Leadership framed the vision around never stopping a customer's line, and deliberately added that its data should help keep the line running, to signal the service ambition.	Treat installed-base and field data as a strategic asset from day one, not as a later add-on to plant reporting.
Mission	The mission names two customer groups, equipment makers and operators, and two sources of advantage, manufacturing discipline and field insight.	Scope the customer and asset domains to cover operators and distributors as well as direct customers, so the installed base is not invisible in the master data.
Strategic choices	Leadership chose to compete on promise-date reliability and quality rather than price, because price-downs were already eroding margin, and ruled out building its own connectivity hardware.	Make the demand and capacity view the first data product, because every reliability objective depends on it.
Themes	Four themes split the agenda between protecting the core (delivery, quality, margin) and building a second revenue line in service.	Fund the three core themes first and ring-fence a smaller service budget, so the pilot cannot starve plant data work.
Strategy map	The map shows governed master data (L1) beneath planning, installed-base monitoring and costing, so three of the four processes rest on it.	Start master data clean-up in the first quarter, because three process objectives stall without it.

What we decided at each level, and so what (continued)

Level	What we decided, and why	So what for the data strategy
Data objectives	Six data objectives split evenly: three defensive on master data, traceability and ownership, three offensive on planning, service triggers and margin.	Run defence and offence from one backlog, so traceability and service analytics are built on the same serial-level data.
Scorecard	The scorecard pairs business lag measures such as OTIF and first-pass yield with lead measures on planner adoption, master data quality and ownership.	Review the lead measures monthly at the operations meeting, because OTIF and yield will only move a quarter or two after they do.
Portfolio	Seven use cases were scored on value and feasibility; the promise-date engine and defect early warning scored highest on both.	Build those two first, because they share the product master and can prove value on the plant floor within a quarter.
Roadmap	The roadmap puts governance, master data and planning in H1, traceability and costing in H2, and scaled service contracts only in H3.	Hold the service scale-up until traceability and installed-base data are proven, so the new business rests on trusted data.

The cascade: vision to choices

Leadership chose to compete on promise-date reliability and quality rather than price, because price-downs were already eroding margin, and ruled out building its own connectivity hardware.

Vision	To be the component partner whose parts never stop a customer's line, and whose data helps keep it running.
Mission	We engineer, make and service precision drive components for equipment makers and operators, combining manufacturing discipline with live insight from the field.
Winning aspiration	Be the most reliable and most responsive supplier in our chosen niches, with service and aftermarket as a material second revenue line.
Where to play	Engineered-to-order components for makers of agricultural, materials-handling and energy equipment; Aftermarket replacement and condition monitoring for operators of our installed base, through distributors and direct key accounts; Core markets in Europe and North America; other regions served only through customer platform programmes
How to win	Delivery customers can plan around: on time, in full, against honest promise dates; Quality built in at the line rather than inspected in, so scrap and warranty cost fall; Connected components and service contracts that turn field data into predicted replacements
Capabilities	Integrated sales and operations planning from demand signal to plant schedule; Closed-loop quality from supplier lot to field return; Installed-base visibility: which part, in which machine, in what condition; Product and customer costing with margin transparency down to SKU; Field service and contract management for recurring revenue
We will not	We will not chase commodity catalogue volume on price against low-cost producers; We will not build our own connectivity hardware platform; we instrument components and partner for connectivity; We will not add plant capacity before current lines run at target utilisation
so WHAT	Make the demand and capacity view the first data product, because every reliability objective depends on it.

Strategic themes

Four themes split the agenda between protecting the core (delivery, quality, margin) and building a second revenue line in service.

T1 Reliable delivery

Make every promise date one the customer can plan production around.

T2 Quality at source

Cut scrap, rework and warranty cost by catching defects where they start.

T3 Service revenue

Grow recurring revenue from the installed base through connected components and contracts.

T4 Margin discipline

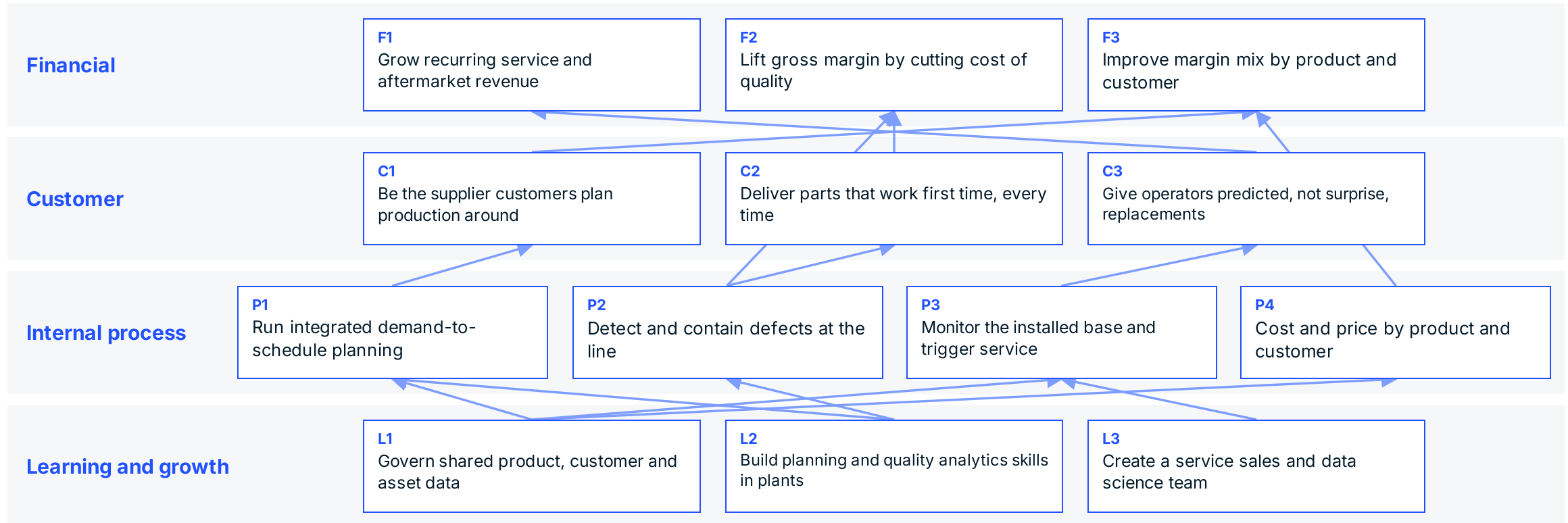
Know true cost and margin by product and customer, and act on it.

SO WHAT

Fund the three core themes first and ring-fence a smaller service budget, so the pilot cannot starve plant data work.

Strategy map: cause and effect on one page

Illustrative. Arrows run from cause to effect; learning and growth enables process, process serves customers, customers drive the financials.



SO WHAT

Start master data clean-up in the first quarter, because three process objectives stall without it.

Posture: 50% offence, 50% defence

Delivery and service growth need planning and field analytics, but quality and costing only work on traceable, governed master data, so effort is split evenly between the two.

Defence objectives

- D1 Govern one master record for materials, customers and installed assets
- D3 Link process, inspection and supplier-lot data to every serial number
- D6 Embed data quality rules and named ownership in every plant

Offence objectives

- D2 Give planners a daily, trusted view of demand and capacity
- D4 Turn condition data from connected components into service triggers
- D5 Produce cost-to-serve and margin by SKU and customer every month

Data objectives, traced to the strategy map

ID	Data objective	Serves	Type
D1	Govern one master record for materials, customers and installed assets	L1, P4	Defence
D2	Give planners a daily, trusted view of demand and capacity	P1, C1	Offence
D3	Link process, inspection and supplier-lot data to every serial number	P2, C2	Defence
D4	Turn condition data from connected components into service triggers	P3, C3	Offence
D5	Produce cost-to-serve and margin by SKU and customer every month	P4, F3	Offence
D6	Embed data quality rules and named ownership in every plant	L1, L2	Defence

SO WHAT

Run defence and offence from one backlog, so traceability and service analytics are built on the same serial-level data.

Data strategy scorecard

Illustrative baselines and targets.

Perspective	Objective	Measure	Type	Baseline to target	Initiative	Owner
Value	Deliver on time, in full	OTIF against customer request date	Lag	88% to 95%	Integrated planning data product	COO
Value	Build quality in at the line	First-pass yield on critical lines	Lag	91% to 96%	Statistical process control alerts	Operations director
Value	Cut cost of poor quality	Scrap, rework and warranty as a share of sales	Lag	3.8% to 2.6%	Serial-level traceability	VP Quality
Value	Grow connected service revenue	Recurring service revenue as a share of total revenue	Lag	4% to 9%	Connected-component service pilot	Head of Aftermarket
Stakeholder	Planners work from one plan	Planners using the shared demand and capacity view weekly	Lead	0% to 90%	Integrated planning data product	Supply chain director

SO WHAT Review the lead measures monthly at the operations meeting, because OTIF and yield will only move a quarter or two after they do.

Data strategy scorecard (continued)

Illustrative baselines and targets.

Perspective	Objective	Measure	Type	Baseline to target	Initiative	Owner
Stakeholder	Faster margin answers for commercial teams	Time to produce the product and customer margin pack	Lead	10 working days to 1 working day	Cost-to-serve model	CFO
Data operations	Clean material and customer master	Master records passing completeness and validity rules	Lead	71% to 97%	Master data clean-up and ownership	Data governance lead
Data operations	Traceable production	Serial numbers with full process and supplier-lot genealogy	Lead	35% to 90%	Serial-level traceability	Plant managers
Capability	Accountable data ownership	Critical data domains with a named owner and steward	Lead	2 of 7 to 7 of 7	Data governance operating model	CDO
Capability	Analytics skills in the plants	Process engineers certified in self-service analytics	Lead	5 to 60	Plant analytics academy	HR director

Prioritised use cases

Use case	Theme	Value	Feasibility	Decision it improves
Promise-date engine	T1	5	4	What delivery date can we safely commit to on this order?
Defect early warning on critical lines	T2	5	4	Should this line be stopped and adjusted now?
Product and customer margin review	T4	4	5	Which products and accounts should we reprice, redesign or exit?
Predicted replacement offers	T3	5	3	When should we offer an operator a replacement before failure, and at what price?
Constrained sales and operations plan	T1	4	3	Which demand do we serve first when capacity is short?
Supplier lot quality scoring	T2	3	4	Which incoming supplier lots need inspection or containment?
Warranty claim root cause	T2	4	3	Which design, process or supplier cause drives this claim pattern?

SO WHAT

Build those two first, because they share the product master and can prove value on the plant floor within a quarter.

Build once, use many: data products by use case

Seven use cases were scored on value and feasibility; the promise-date engine and defect early warning scored highest on both.

	Product and material master	Demand and capacity view	Production genealogy	Supplier quality record	Installed base 360	Cost-to-serve and margin
Promise-date engine	●	●				
Constrained sales and operations plan		●				●
Defect early warning on critical lines	●		●			
Supplier lot quality scoring			●	●		
Warranty claim root cause			●	●	●	
Predicted replacement offers	●				●	●
Product and customer margin review	●					●
	used by 4	used by 2	used by 3	used by 2	used by 2	used by 3

SO WHAT Build those two first, because they share the product master and can prove value on the plant floor within a quarter.

Roadmap

The roadmap puts governance, master data and planning in H1, traceability and costing in H2, and scaled service contracts only in H3

Horizon 1: 0-6 months

- Data governance operating model: owners and stewards named for seven critical domains
- Master data clean-up and ownership for materials and customers
- Integrated planning data product live in two plants, feeding the promise-date engine
- Statistical process control alerts on the three highest-scrap lines

Horizon 2: 6-18 months

- Serial-level traceability across all five plants, linked to supplier lots
- Cost-to-serve model producing a monthly product and customer margin pack
- Connected-component service pilot with ten key-account operators
- Plant analytics academy: first sixty process engineers certified

Horizon 3: 18-36 months

- Predicted replacement offers scaled into priced service contracts across the installed base
- Monthly constrained sales and operations plan run entirely on shared data products
- Warranty root-cause loop feeding design and supplier changes every quarter

SO WHAT

Hold the service scale-up until traceability and installed-base data are proven, so the new business rests on trusted data.

The first 100 days

Weeks 1-2: Mandate and baseline

- Data council chartered with COO, CFO and VP Quality as sponsors
- Baselines for OTIF, first-pass yield and cost of poor quality agreed with finance
- System inventory: ERP, MES, quality, CRM and field service

Weeks 3-6: Prioritise and design

- Use-case portfolio scored on value and feasibility
- Owners named for product, customer and asset data
- Designs for the demand and capacity view and production genealogy

Weeks 7-10: First value on the floor

- Promise-date engine piloted with one plant's order desk
- Process control alerts live on the first critical line
- Master data quality rules running with a weekly scorecard

Weeks 11-14: Prove and fund

- Pilot results against baseline presented to the executive team
- Funding case for traceability and the service pilot
- Data strategy scorecard published monthly

SO WHAT

Leave day 100 with an approved roadmap, a funded first tranche, live forums and two quick wins in delivery.

Build yours

- Strategy Cascade and Scorecard Workbook: the templates behind this example
- Scorecard Measures Library: measures and definition cards
- Strategy Workshop Kit: the three workshops that produce it

scikiq.org/data-strategy