

Halbrook Industrial Supply: The Margin That Went Missing

A teaching case. Halbrook Industrial Supply is fictional. All figures are synthetic and were constructed for demonstration purposes.

The August board meeting

On the morning of 16 July 2026, Dana Reyes closed the FY26 books and did not like what they showed.

Reyes had joined Halbrook Industrial Supply as its first non-family chief financial officer eighteen months earlier, recruited out of a \$400M regional distributor by a family that had decided it wanted to run the business like an institution rather than a household. The mandate was straightforward: professionalize the finance function, install real reporting, and get the company ready for whatever came next — a recapitalization, a sale, or simply a decade of disciplined growth.

The fiscal year that had just ended did not look like a disaster. Revenue reached \$38.4M, up 4.1% over FY25 and up 9.1% across two years. The sales team had added eleven new accounts. Both branches that had been underperforming in FY24 were now profitable.

And yet EBITDA had fallen for the second consecutive year, from \$2.43M in FY24 to \$1.84M in FY26. Gross margin had slipped from 28.0% to 26.4%. Cash from operations, which had been \$1.21M two years earlier, was **negative \$360,000**. The revolving credit facility, drawn at \$1.78M when Reyes arrived, now stood at \$4.89M against a \$6.0M commitment.

Most immediately, Halbrook had closed the year in breach of both of its bank covenants. Total funded debt to EBITDA stood at **3.63x** against a ceiling of 3.50x. Interest coverage had fallen to **2.0x** against a floor of 2.50x — proportionally the larger miss, and the one a credit officer would read as the more serious.

Reyes had five weeks until the August board meeting, where two outside directors added the previous year would want to know three things. What happened. Why nobody saw it coming. And what was going to be done about it.

The uncomfortable part was that Reyes could answer none of them with confidence.

Company background

Halbrook Industrial Supply was founded in 1987 by Ray Halbrook, a former maintenance supervisor at a Cedar Rapids grain processing plant who had grown tired of waiting three days for a replacement seal. The original business was a single warehouse selling fittings, valves, and fasteners to industrial customers within a ninety-minute drive.

By 2026 the company operated four branches — Cedar Rapids, Des Moines, Omaha, and Kansas City — and employed 119 people. The Kansas City branch had been bought in 2019, a tuck-in acquisition of a smaller competitor that brought the fourth location and \$1.15M of goodwill onto the balance sheet. Ray's son Gary had been chief executive since 2011. The family retained full ownership.

The business ran two distinct lines:

Distribution, 78% of revenue, sold industrial components across eight product families: fittings and valves, fasteners, power transmission, hose and hydraulics, safety and PPE, electrical, pumps, and consumables. Roughly 12,400 stocked SKUs, with several thousand more available on special order. For pricing and margin work the company rolled these into 260 product groups. Orders arrived by phone, email, and increasingly through a customer portal that had been bolted onto the ERP in 2023. Average order value was approximately \$1,745 across roughly 4.4 line items.

Installed Service, 22% of revenue, sent technicians into customer facilities to install, repair, and maintain the equipment the distribution business sold. Thirty-four technicians and field supervisors worked out of the four branches, dispatched through a separate scheduling application. Service work carried materially better margins than distribution and, importantly, tended to lock in the parts business that followed it.

The customer base numbered 142 active accounts across four segments: contractors, manufacturers, municipalities and utilities, and facilities and property management. Halbrook had exited counter and walk-in trade in 2019 to concentrate on contract accounts, which is why so few accounts supported \$38.4M of revenue — an average of \$270,000 each, high for the industry and a deliberate consequence of that decision. The top ten accounts represented 40.3% of revenue, down from 42.2% two years earlier.

Revenue followed a typical construction-adjacent seasonal pattern. January and February ran roughly 25% below the annual monthly average; May through September ran 12–18% above it. Service revenue was flatter and partly counter-seasonal, since plant shutdowns for maintenance clustered in the fourth quarter.

The operating plan

When Reyes arrived in January 2025, Gary Halbrook handed over a three-year operating plan that an advisory firm had built the previous autumn. It called for 5% annual revenue growth, gross margin held at 28%, and EBITDA expanding to 8% by FY27. The plan assumed the growth would come from three new account managers and an expanded footprint in Kansas City.

Revenue came close: 4.8% in FY25 and 4.1% in FY26 against a 5% plan. Nothing else came close at all.

Reyes's first act had been to ask the controller, Ellen Boyd, for a margin report by customer. Boyd produced one in nine days. It came out of the ERP, was finished in Excel, and did not reconcile to the general ledger. The second attempt reconciled but excluded freight. The third included freight but allocated it evenly across all lines, which Reyes knew was wrong because roughly a quarter of the company's deliveries went to jobsites on dedicated runs.

By month four Reyes had stopped asking.

The reporting environment

Halbrook ran five systems (Exhibit 8).

The ERP was the system of record for orders, inventory, invoicing, the accounts receivable subledger, and the general ledger. It had been implemented in 2014 and upgraded twice. It produced competent transactional reporting and almost no analysis.

A CRM held quotes and opportunity pipeline. It did not talk to the ERP, so nobody could reliably say what proportion of quotes converted, or at what margin relative to quoted price.

The service dispatch application held work orders, technician time, and parts issued. It posted a nightly summary journal to the ERP. The detail behind that summary — which technician, which customer, how long, what parts — stayed in the dispatch system and had never been analyzed alongside the distribution data.

Customer payments arrived through a bank lockbox as a daily file. Halbrook's two accounts receivable clerks applied them to open invoices by hand.

And customer-specific pricing and vendor rebate accruals lived in a spreadsheet. It was maintained by one person in purchasing, it was 340 columns wide, and it was the only place where a given customer's negotiated price on a given product family could be found.

Marcus Webb, the company's sole financial analyst, spent most of his week assembling the monthly reporting package. Reyes estimated Webb had perhaps four hours a month left for anything that could be called analysis.

What the numbers showed

Reyes spent the first two weeks of July building the exhibits that follow, updating them through the close review on 15 July.

The income statement (Exhibit 1) told a clear story at the top and an opaque one underneath. Revenue had grown \$3.2M over two years. Gross profit had grown \$285,000. Effectively all of the incremental revenue had been consumed before it reached the operating line.

The balance sheet (Exhibit 2) explained where the cash had gone. Receivables had grown from \$4.05M to \$5.66M — faster than revenue. Inventory had grown from \$5.42M to \$7.05M — much faster than revenue. Together, those two lines had absorbed \$3.23M of cash over two years — a period in which the company generated \$1.23M of net income.

The cash flow statement (Exhibit 3) made it stark. FY26 generated \$1.84M of EBITDA and consumed \$360,000 of operating cash. The gap was working capital.

The revolver had funded the difference, and interest expense had risen from \$335,000 to \$580,000. Reyes stopped short of attributing that split. Funded debt rose \$2.31M and the effective rate rose with it, and separating the two properly needs the draw timing and the rate schedule rather than year-end balances. What the statements support is that both moved against the company at once.

Reyes cut the margin decline two ways and got an answer that raised more questions than it settled (Exhibit 4). Holding the FY24 revenue mix constant, the FY26 line margins would have produced a blended 27.22% — meaning 0.806 points of the 1.594-point decline is the net effect of the lines' own margins moving. Net, because they moved in opposite directions: Distribution gave up 1.30 points and Installed Service gained 0.60, and Distribution is far the larger line. The remaining 0.788 points came from mix: Installed Service, which carried 41.8% margins, had fallen from 26% of revenue to 22%, while Distribution at 22.1% had grown.

In other words, roughly half the margin problem was that the good business had shrunk as a share of the whole. Nobody had framed it that way, because the monthly reporting package showed absolute dollars, and in absolute dollars the decline was gradual: \$9.15M in FY24 to \$8.45M in FY26, a fall of \$704,000 or 7.7% spread across twenty-four months. No single month looked like a break.

The branch view (Exhibit 5) showed Omaha at 23.9% gross margin against 27.0% for the other three. Omaha's branch manager attributed it to a more competitive market. Nobody had tested that.

The customer view (Exhibit 6) was the one that surprised Reyes, because it did not say what she expected. Concentration had not increased: the largest account, Meridian Mechanical Contractors, had fallen from 9.3% of revenue to 7.8%, and the top ten from 42.2% to 40.3%. Whatever was happening to margin, it was not being caused by growing dependence on a few accounts.

What the customer view did show was that the decline was broad. Every one of the top ten lost gross margin over the two years. Five lost more than the company's 1.60 points and five lost less, and the worst — Tri-State Utilities Authority at 2.5 points — was the third largest, not the first. That pattern argues against a single renegotiated contract and for something systematic: pricing, freight, or cost pass-through applied across the book.

And the working capital metrics (Exhibit 7) showed the cash conversion cycle stretching from 76 days to 97, with days sales outstanding moving from 42 to 53.

Two separate things were going on here, and Reyes had spent a week conflating them.

The first was real. Customers were paying more slowly, and the balance sheet said so: \$5.655M of genuine outstanding receivables at 30 June, correctly stated.

The reconciled receivable of \$5,655,263 is stated net of all valid cash identified as settling a trade receivable - not net of every payment the bank received. The \$99,374 that arrived from known payers against no identifiable receivable is not deducted from it, because there is no receivable for it to settle; it sits in accrued liabilities as customer cash received and unidentified until someone resolves it.

Within that balance, \$5,763,023 is owed on open invoices and \$107,759 is credit balances owed back. Customer credits remain on account and are available to offset other receivables from the same customer, so the balance is presented net at the customer-account level rather than grossed up with a separate liability. Only the invoices are aged: a credit is not debt that is late.

The second was not a cash problem at all. The lockbox swept receipts against the revolver the day they landed, so Halbrook had the money and the interest clock had already stopped.

The bookkeeping matters here, because a bank sweep does not by itself credit receivables.

The lockbox interface posts a daily aggregate journal entry for the total swept: debit the revolver, credit the accounts receivable control account for the receipts identified as settling a trade receivable, and credit unapplied cash for the rest. The second line matters. A known payer is not a known receivable, and \$99,374 of receipts arrived before the year end from customers Halbrook recognizes against no invoice in either register. Crediting receivables for money no customer owes would put the control account wrong in the other direction.

That entry keeps the general ledger, and therefore the balance sheet, correct. Applying each receipt to a specific invoice in the AR subledger is a separate manual step, and it is that step the team was behind on. So the control account said \$5.655M and the subledger said \$7.081M, and the \$1.426M between them was a reconciling item on the year-end close file rather than a missing entry.

That distinction is the whole problem. A CFO can sign a balance sheet that is right while the report her collections team works from is wrong by a quarter of the receivable, and nothing in the month-end pack shows the gap. The accounts receivable team had 812 receipts totaling \$1.438M with no ERP cash-receipt posting against them, the oldest 19 banking days old. Six of those, \$12,536, the bank had already returned before the year end, so the company was not holding that money: the cash it held that had reached the control account and not the subledger was \$1.426M across 806 receipts, and that is the figure the aging report was wrong by.

The backlog has a date on it. Through 2 June the two clerks kept up; from 3 June roughly half of each day's receipts stopped being applied, and the share never recovered.

That is what the transaction data shows: a date, and a share of each day that stops. It does not show why, and no field in the lockbox file or the cash receipts journal names a clerk, a worklist, or a position in a queue. The cause came from Boyd, in an hour with Reyes going through how the work is actually done.

The two clerks split the lockbox file between them, Boyd explained, and each worked her own list. One had been pulled onto the annual physical inventory count in early June and then held there through the close, back at her desk in mid-July. With her away, her half stopped being worked and the other half carried on — which is the shape the data shows: not a slowdown across the board, but half of each day untouched. And her list was sorted newest-first, so when she came back July got cleared and a month of June sat below it.

Neither half of that is worth much alone. The data gives the date and the magnitude and no reason; the interview gives a reason that would be a story if the transactions did not fit it. They fit it.

Nothing about these receipts is difficult. All 758 name their invoice exactly, come from the right customer, and match the invoice to the cent. They were never a matching problem. They were a queue nobody was looking at the bottom of, and no report counted what was in it.

Not all of it was a backlog. Forty-two of those receipts, \$99,145, were keyed in the first few days of July in the ordinary course; a one- or two-day posting lag is normal in many finance operations and is not a control failure. What had still not been posted into the cash-receipts process when the journal was last observed on 15 July was 764 receipts, \$1.326M.

Posting is not matching. Every one of the 758 resolves to a single invoice on an exact reference match, so the team was not failing to identify the payments. It was failing to enter them.

The damage was not interest. It was that the open-invoice subledger showed \$7.081M against a true receivable of \$5.655M. The aging report was overstated by the difference, so at the year end Halbrook's two collections callers were working from a list that included invoices customers had already paid.

It is worth being precise about what that means at invoice level, because the two populations are easy to confuse. The ERP said 4,376 invoices were open, worth \$7.184M before customer credits. Reconciling the bank receipts against that population separates the balances that are real from the ones that only appear open because the cash had not reached the invoice-level subledger. After reconciliation, 3,556 invoices worth \$5.763M genuinely remained open. The difference is not a new investigation population. Those invoices were paid; the payment had simply not been applied to them. What is left is the legitimate receivable book collections should have been working from.

None of which was a discovery. The close file already carried the difference: the control account and the subledger are both in the ERP, and reconciling the two is ordinary month-end work. Boyd had the aggregate number.

What she did not have was any way to act on it. An aggregate difference says \$1.426M of cash has not reached the subledger. It does not say which receipts, against which invoices, in what condition, or which of them need a person. Resolving it means deciding, for each of the 806 receipts, which of the 4,376 positive open invoices it settles — narrowed by payer and by the reference on the advice, but still 806 individual decisions, each ending in a posting or an exception. The work is counted in receipts, not in invoices: the open-item register is what each receipt is searched against, not a queue of invoices to investigate. The report also carries 109 customer credit rows, which are money owed back rather than

invoices a receipt can settle. Two clerks who were already behind were not going to produce 806 of those alongside the work that had put them behind.

So the aggregate reconciliation was done and the detailed resolution was not, which is the ordinary outcome and the reason the aging report went to collections wrong. The gap was never between knowing and not knowing. It was between a number on the close file and a work queue somebody could finish.

The decision

Reyes had five weeks and, realistically, three options.

The first was to take the covenant breach to the bank with an explanation built on what was already known: revenue grew, working capital consumed the growth, the margin drifted. That explanation was true. It was also the kind of answer that invites a bank to tighten terms, because it does not demonstrate that management understands its own business.

The second was to commission a full analytics function — hire two analysts, buy a BI platform, and build the reporting that should have existed all along. Gary Halbrook would likely approve it. Two capable analysts with ERP extracts could produce margin by customer and by branch within a few weeks of arriving; a durable reporting capability would take nine to twelve months. Neither clock started until Reyes had recruited them, and the board meeting was in five weeks.

The third was to find someone who could tell Halbrook what had actually happened to the margin, using the data the company already had, before August.

What Reyes could not decide was which question to ask first. The margin decomposition suggested mix. The branch view suggested Omaha. The customer view ruled concentration out and pointed instead at something applied across the whole book — pricing, freight, or cost pass-through. The receivables backlog suggested a process problem that had nothing to do with margin at all — except that the report collections would work from through July was overstated by \$1.426M at the very date it mattered most, and the audit would need a reconciling item of that size explained to receipt level before anyone signed the balance it supported.

They were probably not four problems. Reyes suspected they were one problem wearing four costumes, and that the connection would be visible in transaction-level data that nobody at Halbrook had ever assembled in one place.

Exhibits

Exhibit 1 — Income statement

\$ thousands, fiscal year ending 30 June. Stated in thousands so every line ties exactly to the transaction data behind it rather than to a rounded million. Revenue, cost of goods sold and gross profit are the sales ledger's own totals rounded to \$000, and the data-and-analysis package independently verifies that tie. SG&A carries the operating cost the ledger does not hold, so it is where the statement and the transactions meet.

	FY24	FY25	FY26
Revenue	35,200	36,900	38,400
Cost of goods sold	25,334	26,824	28,249
Gross profit	9,866	10,076	10,151
SG&A	7,437	7,899	8,308
EBITDA	2,429	2,177	1,843
Depreciation & amortisation	620	665	710
EBIT	1,809	1,512	1,133
Interest expense	335	432	580
Pre-tax income	1,474	1,080	553
Income tax	368	270	138
Net income	1,106	810	415
Revenue growth	—	4.8%	4.1%
Gross margin	28.0%	27.3%	26.4%
SG&A % of revenue	21.1%	21.4%	21.6%
EBITDA margin	6.9%	5.9%	4.8%

Revenue is net. The invoice register carries \$38,527,999 of gross billings and \$128,000 of credit notes raised during the year, and \$38.400M is what remains. All 130 credit notes stay in the register as individual records, each naming the invoice it was raised against and a reason: billing correction, price adjustment, return, damaged goods, freight dispute. Transaction-level visibility and financial-statement treatment are separate questions, and a current-period sales credit reduces revenue whatever else it does.

For the teaching case the generated credits carry a matching cost adjustment, so net revenue falls and the stated 26.4% gross margin holds. That is a modeling assumption, not an accounting law. In a real book a

return reverses cost of sales cleanly, a price adjustment or a freight dispute usually does not, and damaged goods more often produce a write-off than a reversal. The mix here would in practice move gross margin by a few hundredths of a point; the case does not model that, and says so rather than implying the treatment is automatic.

Exhibit 2 — Balance sheet

\$ thousands, as at 30 June

	FY24	FY25	FY26
Cash	412	358	294
Accounts receivable	4,050	4,649	5,655
Inventory	5,416	6,174	7,046
Prepaid & other current	285	310	330
Property & equipment, net	3,240	3,375	3,490
Goodwill	1,150	1,150	1,150
Other assets	180	180	180
Total assets	14,733	16,196	18,145
Accounts payable	3,055	3,307	3,639
Accrued liabilities	1,180	1,240	1,321
Revolving credit facility	1,778	3,019	4,890
Current portion of term debt	400	400	400
Term debt, net of current	2,200	1,800	1,400
Shareholders' equity	6,120	6,430	6,495
Total liabilities & equity	14,733	16,196	18,145

Revolver commitment is \$6.0M throughout. Term debt amortizes at \$400,000 annually.

Accounts receivable is stated **net** of cash received and not yet applied to invoices at the year end — \$1.426M — and net of \$107,759 of customer credit balances. See Exhibit 7. Goodwill arises from the 2019 acquisition of the Kansas City branch.

Accrued liabilities include \$99,374 of customer cash received by the year end for which no trade receivable had been identified. It is not netted against receivables, because there is no receivable it settles; it is a liability until someone works out whose it is. The FY26 accrued liabilities balance already carries it, so no line moves.

Exhibit 3 — Statement of cash flows

\$ thousands, fiscal year ending 30 June

	FY24	FY25	FY26
Net income	1,106	810	415
Depreciation & amortisation	620	665	710
(Increase) in receivables	(300)	(599)	(1,006)
(Increase) in inventory	(416)	(758)	(872)
(Increase) in prepaid & other	(15)	(25)	(20)
Increase in payables	155	252	332
Increase in accruals	60	60	81
Cash from operations	1,210	405	(360)
Capital expenditure	(755)	(800)	(825)
Cash from investing	(755)	(800)	(825)
Revolver, net	578	1,241	1,871
Term debt repayment	(400)	(400)	(400)
Shareholder distributions	(600)	(500)	(350)
Cash from financing	(422)	341	1,121
Net change in cash	33	(54)	(64)

Receivables at FY25 and FY26 are the opening open-item register and the reconciled closing balance respectively, so the movement on this statement is the movement in the data rather than a separately maintained model input.

Exhibit 4 — Revenue and margin by line of business

	FY24	FY25	FY26
Distribution revenue (\$M)	26.048	27.860	29.952
Distribution gross margin	23.4%	22.7%	22.1%
Installed Service revenue (\$M)	9.152	9.041	8.448
Installed Service gross margin	41.2%	41.5%	41.8%
Service as % of revenue	26.0%	24.5%	22.0%
Blended gross margin	28.0%	27.3%	26.4%

Decomposition of the FY24 to FY26 margin decline

	GROSS MARGIN
FY24 actual	28.028%
FY26 line margins applied to the FY24 revenue mix	27.222%
FY26 actual	26.434%
Net effect of within-line margin changes	(0.806) pts
Effect of mix shifting toward Distribution	(0.788) pts
Total decline	(1.594) pts

Stated to three decimals because the two effects are a subtraction of the three rows above them. Rounding those rows first and subtracting the rounded values is not the same arithmetic, and here it moved each effect by enough to reverse which of the two was the larger.

The first row is a net and the label says so. Distribution's margin fell 1.30 points and Installed Service's rose 0.60; weighted by what each line was worth, the two together cost 0.806 points. It read "line margins deteriorating", which asserted that both got worse while Exhibit 4 above it showed one of them improving. The second row is a counterfactual: it holds the closing line margins constant and changes only the revenue mix, which is not a claim that either margin stood still.

Exhibit 5 — Gross margin by branch, FY26

Shares are computed from the FY26 sales ledger's unrounded revenue and displayed to one decimal, on the same basis as Exhibit 6, so a column will not always sum to its total.

BRANCH	% OF REVENUE	GROSS MARGIN
Cedar Rapids	33.4%	27.2%
Des Moines	26.5%	26.7%
Kansas City	21.9%	27.1%
Omaha	18.2%	23.9%
Total	100.0%	26.4%

Exhibit 6 — Top ten customers, FY26

FY26 shares are computed from the FY26 sales ledger; FY24 shares and the margin trend come from the same ledger's FY24 year. Margin trend compares each account's own two-year gross margin movement against the company's 1.594-point decline: steeper means the account lost more than the business as a whole. Shares are computed from unrounded revenue and displayed to one decimal, so a column will not always sum to its total.

CUSTOMER	SEGMENT	% OF REVENUE	FY24 %	MARGIN TREND
Meridian Mechanical Contractors	Contractor	7.8%	9.3%	In line
Cedar Valley Foods	Manufacturer	5.5%	6.3%	In line
Tri-State Utilities Authority	Municipality & Utility	4.8%	4.8%	Steeper
Ironline Manufacturing	Manufacturer	3.7%	4.2%	Steeper
Prairie Ridge Facilities Group	Facilities & Property Management	3.5%	3.5%	Steeper
Halstead Fabrication	Manufacturer	3.5%	3.0%	In line
Norwalt Processing	Manufacturer	2.9%	2.7%	In line
Blackhawk Construction Services	Contractor	2.9%	2.7%	In line
Delta Rail Services	Contractor	2.8%	2.7%	Steeper
Municipal Water District 7	Municipality & Utility	2.8%	2.9%	Steeper
Top ten total		40.3%	42.2%	

Exhibit 7 — Working capital and credit metrics

	FY24	FY25	FY26	COVENANT
Days sales outstanding	42	46	54	—
Days inventory outstanding	78	84	91	—
Days payable outstanding	44	45	47	—
Cash conversion cycle	76	85	98	—
Total funded debt (\$000)	4,378	5,219	6,690	—
Total debt / EBITDA	1.80x	2.40x	3.63x	max 3.50x
EBIT / interest expense	5.4x	3.5x	2.0x	min 2.50x
Current ratio	1.58	1.44	1.30	min 1.25x
Revolver availability (\$000)	4,222	2,981	1,110	\$6.0M commitment

At 30 June 2026 Halbrook was in breach of both the leverage and the interest coverage covenants.

Covenant ratios are shown before default remedies. Management is seeking a waiver and has not yet obtained one; the case assumes it is granted before the statements are issued, which is why the term debt above is still classified as long-term. An unwaived default would ordinarily pull it into current liabilities, and that reclassification is one of the things riding on the August conversation. The \$1,110,000 of availability is contractual undrawn commitment. It is not a statement that the lender must advance it while a default is outstanding — a bank being asked to waive a breach is entitled to say no to both at once.

Working capital metrics are computed on period-end balances against trailing-twelve-month revenue and cost of goods sold, which is the basis the credit agreement uses. Halbrook's 30 June year-end falls inside its strong season, so these levels run above what a monthly-average basis would show. All three years are measured at the same point in the seasonal cycle, which makes the year-over-year trend more comparable; a monthly-average view could still differ if the shape of the season changed.

Accounts receivable reconciliation at 30 June 2026

Two states of the same book, side by side. They are not one running subtraction: the aging report describes what customers owe and the balance sheet is stated net of customer credits, so the columns answer the same question on two different populations.

\$000	PER THE ERP AGING REPORT	RECONCILED
Invoices owing	7,184	5,763
Customer credit balances	(103)	(108)
Net accounts receivable	7,081	5,655

The \$1,426 difference in net receivable is the valid cash that had reached the bank and had not been applied to any invoice at 30 June. The balance sheet carries the reconciled column.

Each side is stated gross and then netted because the two questions are answered on different populations. The aging report describes what customers owe, so its percentages are computed on the invoices owing and not on the netted balance. A customer credit — raised against an invoice that had already been settled, so the money is owed back rather than owing — is not a receivable three hundred days late, and bucketing it against the original invoice's due date cancelled real aged debt out of the report.

The balance sheet figure is correct and the company holds the cash — the lockbox sweeps receipts against the revolver on the day they arrive, and the daily aggregate journal entry credits the AR control account for the receipts that settle an identified receivable. What is wrong is the subledger, where each receipt is applied to a specific invoice by hand, and therefore the aging report that drives collections. The \$1,426 is a general-ledger-to-subledger reconciling item, not a missing entry.

The cash, stage by stage. Each line removes what the line above it counted and should not have, in the order the arithmetic runs.

Whole dollars, because the point of the table is that it subtracts. Rounding each row to the nearest thousand independently leaves it not tying by a dollar or two, which for this table is the wrong compromise.

	RECEIPTS	\$
Positive receipts with no ERP cash-receipt posting at 30 June	812 receipts	1,438,123.53
Less: returned by the bank before 30 June	(6 receipts)	(12,535.51)
Valid cash unapplied at 30 June	806 receipts	1,425,588.02
Less: posted in ordinary lag by 6 July	(42 receipts)	(99,144.80)
Still not posted into the cash-receipts process at 15 July	764 receipts	1,326,443.22
Less: application would overpay a credited invoice	(6 receipts)	(15,212.18)
Directly applicable exactly as it stands	758 receipts	1,311,231.04

The \$1,425,588 is the figure the aging report was overstated by: 25.2% of the true receivable. The \$1,326,443 is what a person still had to key when the posting journal was last observed on 15 July. Only the first is a balance-sheet statement and only the second is a backlog.

Oldest unapplied receipt at 30 June	3 June; 19 banking days old
Accounts receivable clerks	2

Aged debt is quoted three ways, because the report and the reconciled book are different populations and the report itself can be read two ways.

READING	91+ SHARE	POPULATION
ERP aging report, buckets as exported	6.0%	\$7,080,852 net, credits aged against their original due dates
ERP aging report, positive debit items	6.9%	\$7,184,220 owing, credits excluded from both halves
After cash reconciliation	7.9%	\$5,763,023 owing, unposted cash applied

The first two are the same file read two ways. Customer credits are aged against the due date of the invoice they were raised against, so as exported they sit in the 91+ bucket and cancel \$70,513 of real aged debt out of it; the recast takes them out of the numerator and the denominator, which is the more useful reading and is not what the report prints. Whether a given ERP displays one or the other is a configuration question, so both are named rather than one being called the aging percentage.

The third is a different population. The unposted cash sits almost entirely against recent invoices, so the report's current bucket is inflated by it and its aged share is understated. Reconciling the book makes the receivable smaller and older at the same time, which is the opposite of what a reader would guess.

The reconciled 8.0% is up from 2.9% in FY24.

DSO of 53 days is computed on the true receivable and is not affected by the backlog. Customers genuinely are paying more slowly.

Exhibit 8 — Systems and reporting environment

SYSTEM	HOLDS	INTEGRATION	ANALYSIS AVAILABLE
ERP	Orders, inventory, invoicing, AR subledger, GL	System of record	Transactional reporting only
CRM	Quotes, opportunity pipeline	None	Quote conversion unknown
Service dispatch	Work orders, technician time, parts issued	Nightly summary journal to ERP	Detail never analyzed
Bank lockbox	Customer payments, remittance detail	Daily file, applied manually	None
Pricing & rebate workbook	Customer pricing, vendor rebate accruals	Excel, one maintainer, 340 columns	None

Discussion questions

1. Revenue grew 9.1% over two years while gross profit grew 2.9%. Decompose that gap. Which explanations can be tested with the exhibits provided, and which require transaction-level data Halbrook has never assembled?
2. Exhibit 4 attributes roughly half the margin decline to mix. Is a mix shift a problem to be fixed, or an outcome of decisions made elsewhere in the business? What would you need to know to tell the difference?
3. Installed Service revenue fell from \$9.15M to \$8.45M while total revenue grew. The monthly reporting package showed absolute dollars and nobody flagged it. What does that suggest about the design of Halbrook's management reporting, as distinct from the quality of its data?
4. Omaha runs 3.1 points below the other branches. List the competing hypotheses — customer mix, product mix, pricing discipline, freight, service attachment — and describe the analysis that would distinguish among them.
5. Meridian Mechanical Contractors is the largest account, and it has fallen as a share of revenue while its gross margin deteriorated by less than the company's. Reyes went into the analysis expecting concentration to be part of the story. What does Exhibit 6 actually support, and what would have to be true for a concentration argument to hold?
6. The receivables backlog does not change the balance sheet — the cash was swept against the revolver when it arrived, and AR is already stated net of it. Identify what the backlog does damage, and to whom. Is fixing it a finance project, a systems project, or a staffing decision?
7. Working capital metrics in Exhibit 7 are computed on period-end balances at a June year-end that falls in peak season. How would a monthly-average basis change the picture, and which basis should Reyes take to the bank?
8. Halbrook is in technical default on two covenants. Rank the three options Reyes is considering. What would you present to the board in five weeks, and what would you explicitly defer?
9. The pricing and rebate workbook is maintained by one person in Excel and is the only record of negotiated customer pricing. Quantify the risk. What would you do about it in the first ninety days, given that replacing it outright is not feasible before the board meeting?

A note on this case

Halbrook Industrial Supply does not exist. The company, its customers, its employees, and every figure in the exhibits are synthetic, constructed so that the three financial statements tie and the operating metrics are internally consistent.

The case underpins the Material Signal demonstration portfolio. The reconciliation application works the receivables problem in question 6. The exception intelligence application works the margin problem in questions 1 through 5. The executive report is the answer Reyes takes to the August board meeting.

Construction details — why each figure was chosen, how the data was generated, and how every published number is validated against it — are in the data and analysis package, which also contains the source data, the outputs, the answer key and a standalone verifier. It is available on request.

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