# The Industrial Distributor's AI Playbook

10 systems we actually shipped inside three industrial distributors — fasteners, construction supply, and waterworks.

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**Read this if you run — or sell into — an industrial distributor and you're tired of AI demos that don't survive contact with the shop floor.**

# Why this playbook

I'm the COO of three industrial distributors. Fasteners in one, construction supply in another, waterworks in the third. Combined revenue is nine figures. Combined "digital transformation budget" is roughly what it costs to fly a sales team to a trade show.

Over the last 14 months I've shipped ten AI systems across those three businesses. None of them were flashy. None of them replaced the ERP. Most of them were built by our internal ops people using off-the-shelf models and a few hundred dollars a month in API spend.

Every one of them saved between 4 and 14 hours a week. A few of them changed how we hire. One of them made us 90 days faster on quotes without touching the ERP at all.

## Two things I believe about AI in distribution

**1. Your ERP is not the problem.** It's boring, it's ugly, and it works. Ripping it out to install a shiny copilot is a good way to be down for a quarter and no better off. Every system in this playbook sits *next to* the ERP, not on top of it.

**2. AI is not a search engine. It's a knowledge-capture engine.** Half of what makes your business work lives in one person's head. When that person is out sick, the business gets 15% dumber. The playbook below is how we caught that knowledge before it walked out.

## How to read this

Each of the ten systems is one page. Same structure every time — **What it does · Why it matters · How we built it · What it saved**. If you skim it, you should be able to walk into your Monday standup and pick the two that would move a number this quarter.

If you build one and it lands, tell me. My DMs are open at @TimYourCOO on X.

SYSTEM 01



# The Company Brain

*Every SOP, spec sheet, warranty policy, and tribal quote lives in one searchable place.*

### WHAT IT DOES

A private, chat-style Q&A; on top of every operational document we own — SOPs, vendor line cards, expired-quote history, warranty language, freight matrices, credit policies. Reps ask questions in plain English. It answers in the voice of whoever wrote the source, with citations back to the source doc.

### WHY IT MATTERS

Every distributor has a Dave. Dave has been here 22 years. Dave knows which vendor honors returns without a fight, which SKU has a drop-in sub, which customer gets net-45 whether the credit app said so or not. When Dave takes vacation, the whole company is 15% slower. The Company Brain captures Dave without asking Dave to write a manual he'll never write.

### HOW WE BUILT IT

- Point a document ingestion pipeline (LlamaIndex, Vectara, or a plain vector DB) at your SharePoint / Google Drive / shared network folder.
- Include email — a decade of resolved-with-vendor threads is the highest-value tribal knowledge you own. IMAP or Gmail API pull with rep permission.
- Wrap it with a chat UI that cites sources. We used a Slack bot for phase one — reps already lived in Slack. No new tool to adopt.
- Weekly 30-min ritual: pull the top 20 unanswered questions and route them to the humans who know. Their answers become new source docs.

### WHAT IT SAVED

> **6–8 hours per rep per week reclaimed. Two-week payback at $20/rep/month in API spend. First system we ever shipped. Also the first system every distributor should ship.**

SYSTEM 02



# The Quote Draft Engine

*Customer emails a PDF spec. AI drafts a quote in your template, in your ERP.*

### WHAT IT DOES

A pipeline that reads inbound customer specs (PDF, XLS, or a photo of a marked-up drawing), extracts requested items, matches them against your SKU catalog, applies your customer-specific pricing tier, and drafts a quote in your standard template — ready for a human to review and send.

### WHY IT MATTERS

Quoting is the highest-latency step in most distribution businesses. A commercial plumbing bid packet has 60 line items and takes an estimator 45 minutes to key in. By the time the quote goes out, the customer has three others. The Quote Draft Engine cuts the human step to review and price, not read and type.

### HOW WE BUILT IT

- OCR + LLM extraction on the inbound doc — Claude and GPT both read marked-up drawings surprisingly well now.
- SKU matching against your catalog is the hard part. Use a hybrid — embeddings for descriptions, exact match on part numbers where present, fuzzy match on manufacturer + spec.
- Confidence score per line. Anything under 0.85 gets flagged for the estimator. This is critical — the model must know when it's guessing.
- Write the drafted quote back into your ERP via API or an RPA layer if the ERP is old. UI Path or a scripted browser session both work.

### WHAT IT SAVED

> **45 minutes → 8 minutes per quote. Roughly triples estimator throughput. In our construction supply business it also raised the hit rate — because we got the quote out before the competition.**

SYSTEM 03



# The Where's-My-Order Deflector

*40% of inbound support emails, auto-answered from the ERP, in your voice.*

### WHAT IT DOES

A one-way integration that reads inbound customer emails, matches them to open orders in the ERP, and sends a status update ("Your order 44219 shipped yesterday via UPS 1Z...") without a human touching it. High-confidence only; anything ambiguous routes to the human queue.

### WHY IT MATTERS

Order-status inquiries are the single largest bucket of support volume in every distribution business we've measured. They're low-value work that eats good CSRs. Deflect them, and your CSRs spend their time on the calls that actually move margin — vendor escalations, damage claims, expedited freight.

### HOW WE BUILT IT

- Inbound mailbox parser (Postmark, Mailgun, or a raw IMAP loop) matches the sender to a customer account and the body to an order number.
- Query the ERP for order status. If a valid tracking number and last-scan exist, generate the reply. If not, escalate.
- Keep a human-in-the-loop mode for the first 30 days — every draft goes to a CSR queue for approval. Move to full auto once your false-positive rate is under 2%.
- Log every deflected email — this is the data you'll show the CFO to defend the project.

### WHAT IT SAVED

> **30–40% of inbound support volume deflected. In our waterworks business that was ~11 hours a week of CSR time we redeployed to expediting.**

SYSTEM 04



# The Substitution Recommender

*Out-of-stock SKU → three ranked alternatives with the reason.*

### WHAT IT DOES

When a rep quotes something that's out of stock or backordered, the model instantly suggests three substitutes with justification — same manufacturer, cross-reference from vendor line card, or a functionally equivalent part from a different vendor. Each suggestion carries a reason string the rep can read to the customer.

### WHY IT MATTERS

The current process is a rep IMing another rep who IMs a purchaser who Googles a cross-reference sheet. Sale gets lost to Grainger in the meantime. The knowledge to make the sub exists in the business; it's just not in the head of the rep who took the call.

### HOW WE BUILT IT

- Ingest vendor cross-reference sheets (they exist; they're PDFs; nobody reads them).
- Layer in your own historical sub decisions — if a rep substituted an X for a Y three times last quarter, that's a real signal.
- Rank suggestions by margin, availability, and past substitution success. Show the reason next to the SKU in the ERP quote line.
- Feed the outcome back — did the sub sell, did it get returned. The recommender gets sharper every quarter.

### WHAT IT SAVED

> **Recovered roughly 6% of previously-lost quote-to-order conversions in our fastener business. A single won-back order pays for a year of the system.**

SYSTEM 05



# The Credit-App Extractor

*Fax-quality credit apps become clean CRM records in 90 seconds.*

### WHAT IT DOES

Ingests customer credit applications (they arrive as faxes, scanned PDFs, and photographed forms) and produces a structured record — legal name, DBA, billing address, references, requested limit, signer name — inserted straight into your CRM or ERP. Kicks off the reference-check workflow automatically.

### WHY IT MATTERS

New-account onboarding in distribution is the most infuriating drag on new revenue. A credit app arrives, sits in someone's inbox for four days, gets keyed in with three typos, and then the customer calls asking why their first order was held. Fix the intake and everything downstream gets faster.

### HOW WE BUILT IT

- Vision-capable model reads the form (Claude Sonnet, GPT-4o, or Google Document AI). Both handle handwriting and marked-up scans surprisingly well.
- Validate the extracted fields against your ERP's customer-master rules before insert — reject junk before it enters the system, not after.
- Automate the reference-check step: canned email to each trade reference with a one-click reply form. Log responses.
- Human review only on flagged records — missing signer, requested limit above threshold, address mismatch.

### WHAT IT SAVED

> **4 days → 4 hours on new-account onboarding. Measurable revenue lift because the customer's first order isn't held.**

SYSTEM 06



# The Warranty & RMA Screener

*First-pass response drafted with the actual policy quoted back.*

### WHAT IT DOES

For every inbound warranty claim or return request, the system finds the applicable policy (which varies by vendor, by product line, by whether the customer bought it on a contract), quotes the relevant clauses, and drafts a first response — either approving, requesting more info, or explaining the denial.

### WHY IT MATTERS

Warranty is where distributors bleed goodwill and money at the same time. The CSR either gives too much away because they don't know the vendor policy, or holds too tight because they're afraid to. Neither is a good outcome. The screener puts the actual policy on the table in every conversation.

### HOW WE BUILT IT

- Ingest every vendor warranty PDF. There are dozens. They contradict each other. That's the point — no human can hold them in memory.
- Route by product line and vendor. Use the ERP to identify the original order and the price paid (the return-shipping question depends on it).
- Draft the response with policy citation. Never send auto — every claim goes to CSR for approval, at least in year one.
- Track: approved, denied, escalated. This becomes the dataset for your vendor renegotiations.

### WHAT IT SAVED

> **Halved first-response time on warranty. More importantly, cut the give-away rate — the CSRs stopped approving out-of-policy returns because they were nervous.**

SYSTEM 07



# The Driver-Notes Autocomplete

*Delivery drivers speak. Dispatch reads clean, structured notes.*

### WHAT IT DOES

Drivers voice-record delivery notes on their phones ("Left three pallets at receiving door B, forklift was down, called Kevin, he signed for it, next stop is running an hour behind"). The system transcribes, structures, and posts them into the dispatch board with the right fields populated — customer, stop, status, exception.

### WHY IT MATTERS

Delivery notes are how a distribution operation catches problems before they become claims. Right now they're either not captured, or captured in a scrawl on a paper BOL nobody reads until end of week. Voice-to-structured turns your driver fleet into a passive telemetry layer.

### HOW WE BUILT IT

- Native mobile app is overkill. WhatsApp voice notes into a shared number work. So does a Twilio SMS endpoint.
- Whisper for transcription, then a small structured-extract prompt to fill dispatch fields.
- Alert dispatch on exception keywords — 'refused,' 'damaged,' 'no one on site,' 'gate locked.' Everything else logs quietly.
- Feedback loop: if the driver corrects the transcription, that becomes training data.

### WHAT IT SAVED

> **Cut day-of-delivery escalations that only surface at 4 PM. In our construction supply business that meant fewer next-day redeliveries — one of the largest hidden costs in the business.**

SYSTEM 08



# The Estimator Bid-Prep Bot

*Bid packet arrives Monday. Estimator has a pre-populated SKU pull list Tuesday morning.*

### WHAT IT DOES

For estimators working from public or private bid packets — commercial construction plans, spec books, plumbing schedules — the bot reads the whole packet overnight and produces a pre-populated take-off list with SKU candidates, quantities, and page-number citations back to the source document.

### WHY IT MATTERS

Estimating from a 300-page bid packet is the highest-latency, highest-value work in a project-driven distributor. An estimator will spend two days extracting quantities before they even start pricing. Cut the first day and you can double bid volume without adding headcount.

### HOW WE BUILT IT

- Vision model reads the packet. Modern models handle plans and schedules well; you still need custom prompting per trade (plumbing schedules read very differently from electrical panelboard schedules).
- Ground the SKU suggestions in your line-card catalog. This is the moat — a general model can't do this, only your data can.
- Cite every quantity back to a page number. The estimator's review workflow depends on being able to jump straight to the source.
- Track: which of the bot's line items survived to the final bid. This becomes your training data for the next quarter.

### WHAT IT SAVED

> **Roughly 60% of estimator take-off time gone. We doubled quoted-project volume in our construction supply business inside one quarter.**

SYSTEM 09



# The AR Follow-Up Drafter

*Dunning emails in the customer's tone — not the same rude template for everyone.*

### WHAT IT DOES

Reads your aged AR, matches each overdue invoice to the customer's payment history and past correspondence, and drafts a follow-up email in the tone appropriate to that customer — gentle nudge for a good payer who slipped, firmer language for a repeat late-payer, escalation language for the ones who owe six figures.

### WHY IT MATTERS

The single-template dunning email is why distributors lose customers over $2,000 receivables. A twelve-year customer who's always paid gets the same email as a stranger who's dodging you. Your AR clerk knows this. The AR clerk also has 400 accounts to work. AI drafts, the clerk sends.

### HOW WE BUILT IT

- Pull aging report from the ERP.
- Layer in the last 24 months of payment behavior — days late average, on-time percentage, dispute history.
- Draft the email. Pass through the AR clerk for approval; don't fully automate this one. The relationship layer matters too much.
- For accounts over your threshold, escalate to the AR manager with a talking-points brief, not just a form email.

### WHAT IT SAVED

> **Recovered ~11 days of average DSO in the first quarter after go-live. Also — measurably — fewer angry phone calls from long-time customers who felt the old form email was insulting.**

SYSTEM 10 

# The New-Hire Rep Ramp Path

*A new rep's first 30 days, self-serve, with the Company Brain as their manager's clone.*

### WHAT IT DOES

For every new outside or inside sales hire, a personalized 30-day training path that pulls from the Company Brain, assigns the right ride-alongs, produces daily quiz-style checks on product knowledge and pricing rules, and shows the sales manager a dashboard of where each new rep is soft.

### WHY IT MATTERS

Ramp time is the hidden cost of turnover in distribution. A new rep is unprofitable for ~9 months. Cut that to 5, and the P&L; of your sales org changes materially. This isn't about replacing the mentor rep — it's about giving the new rep somewhere to ask their eighth stupid question of the day without embarrassment.

### HOW WE BUILT IT

- Same Company Brain from System 1 — the retrieval layer is done.
- Layer on a training scaffold: week 1 vendor line cards, week 2 pricing rules, week 3 customer segmentation, week 4 quote workflow.
- Daily 5-question quiz, graded, tied to a scoreboard. The scoreboard matters — reps are competitive.
- Weekly manager review — the system flags gaps ('Rep A can't answer questions on vendor X's warranty policy'), the manager picks the coaching moment.

### WHAT IT SAVED

> **Ramp cut from ~9 months to ~5 in our fastener business. Reduced first-year rep turnover by roughly a third — new reps who ramp faster stay.**

SO — WHAT NEXT?

# You've got the list. Now build one.

If you're an operator inside an industrial distributor, the Company Brain is the one to start with. It unlocks eight of the other nine. Ship that first, ship anything else second.
If you're an AI vendor selling into distribution, this playbook is what your buyers actually want. Not a homepage chatbot. Not a copilot bolted onto their ERP. This.

## → Book a 30-min AI diagnostic call

For distributors: I do one paid diagnostic call per week for another COO or ops leader. We look at your top three time-eaters, map them against the ten systems above, and you leave with a ranked build list. $497. Booking link below.

## → The weekly build log

Every Thursday I post a new build log — what we shipped that week, what broke, what it cost, what it saved. It's free. It's not fluff. It's the raw material of the next version of this playbook.

## → AI vendors: my DMs are open

I do buyer-side advisory for a small number of AI companies selling into industrial verticals. If you want a real distribution COO in the room when you're refining a pitch, DM me on X.

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*COO / 3 industrial distributors — fasteners, construction, waterworks*