
WHITEPAPER

Field Service Workflow Comparison using FSM-Sim™ 2.5

Insights for Commercial HVAC Field Service Business Process
Improvement

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Introduction

The field service industry faces pressure to deliver rapid, accurate quotations while maintaining profitability. Traditional workflows often separate job estimation and approval from service execution. After a technician assesses the work, an estimator in the office prepares a quote before the customer sees it.

A streamlined workflow is one in which technicians quote directly in the field using automated pricing algorithms. To understand the impact of this change, FSM-Sim 2.5™ simulated two companies:

Company A, traditional workflow: customers contact a dispatcher, a technician is dispatched to perform a site visit, and an estimator prepares and reviews a quote before it goes to the customer.

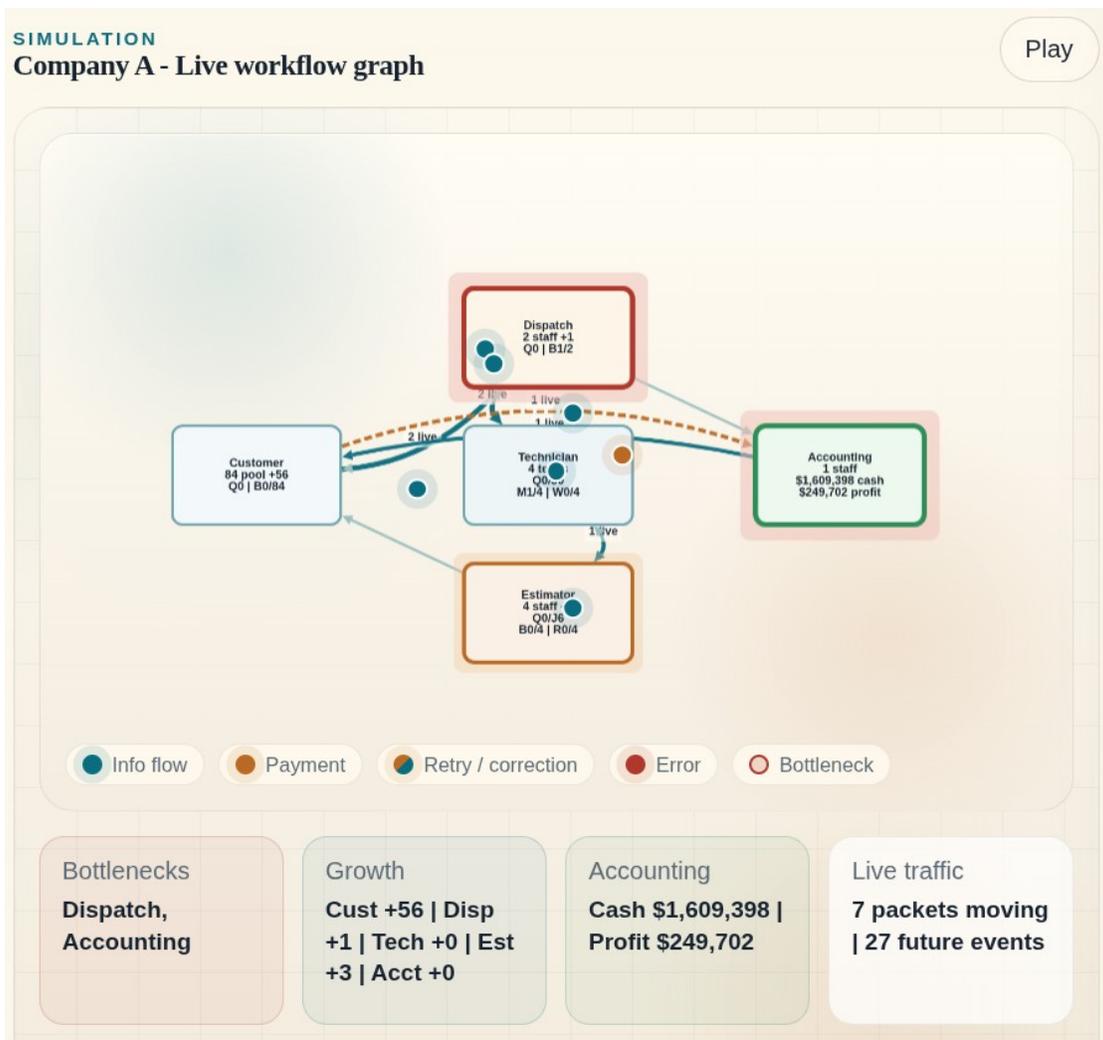


Figure 1. FSM-Sim workflow graph, Company A.

Company B, streamlined workflow: the estimator role is removed. Technicians quote directly to customers using automated pricing and receive approvals without office review.

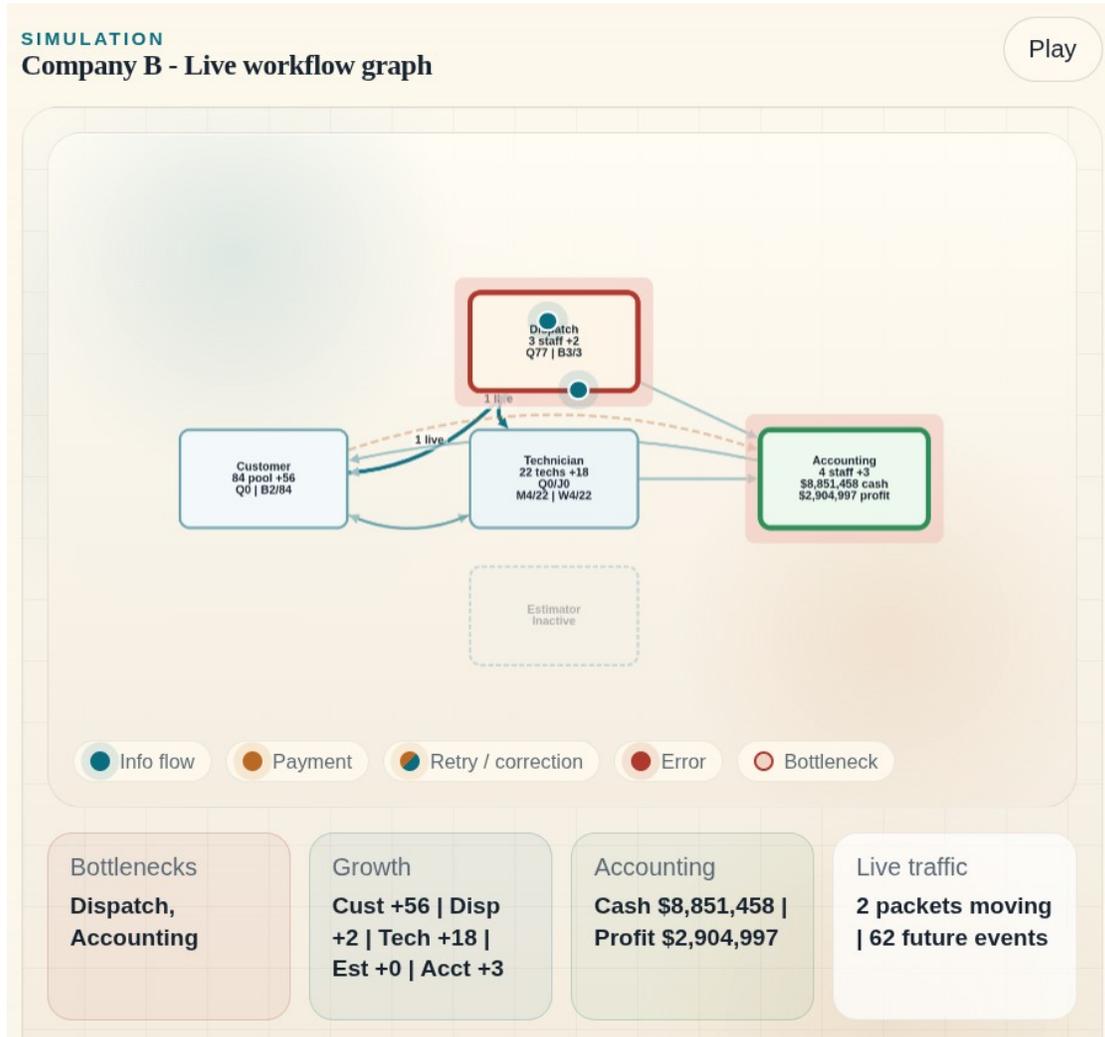


Figure 2. FSM-Sim workflow graph, Company B.

SIMULATION BASELINE

Both companies shared identical demand, cost assumptions, and service parameters. The process ran for 261 days, the equivalent of one year, with four baseline technicians, one dispatcher, and one accountant. The only differences were the workflow structure, the presence or absence of estimators, and the relative weights on quote-delivery channels.

Key findings

Volume and customer throughput

Metric (261 days)	Company A (Traditional)	Company B (Streamlined)	Observations
Requests created	2,068	7,743	Streamlined quoting enabled the business to handle ~3.7 times more service requests, implying substantial latent demand that was not captured in the traditional model.
Quotes delivered	2,057	7,708	Both scenarios delivered nearly all requested quotes, but Company B produced almost four times more quotes.
Average quote turnaround	1 day 6 h	23 h 24 min	The direct-quoting model trimmed hours off the quoting cycle, though improvements were modest because both scenarios used automated pricing and standardized templates. Shorter turnarounds still matter because speed correlates with higher win rates.
Acceptance rate	57 %	84 %	Direct in-field quoting dramatically improved acceptance. Higher acceptance could reflect immediate customer engagement, fewer back-and-forth interactions, and the psychological impact of giving a price while the technician is still on site.
Jobs completed	1,171	6,405	Company B completed more than five times as many jobs because higher acceptance converted more quotes into scheduled work. The increase also required scaling the workforce. See labour costs below.

Metric (261 days)	Company A (Traditional)	Company B (Streamlined)	Observations
Average time to completion	1 day 16 h	2 days 2 h	Jobs in Company B took slightly longer to complete due to larger queues and higher dispatcher utilisation. Dispatch became a bottleneck, with 100% utilisation and an average queue of ~60 requests.

Financial outcomes

Financial metric	Company A	Company B	Interpretation
Revenue billed	\$1.63 M	\$8.92 M	Company B billed ~5.5 times more revenue due to higher volume and acceptance.
Revenue collected	\$1.61 M	\$8.85 M	Cash collection closely tracked billed revenue in both scenarios, with slightly larger outstanding receivables for Company B.
Total labour cost	\$1.36 M	\$5.95 M	The streamlined workflow required scaling from 4 technicians to 22, 18 added, dispatchers from 1 to 3, and accountants from 1 to 4. Removing the estimator eliminated that cost, but labour expenses still quadrupled due to more technicians.
Gross profit	\$0.25 M	\$2.90 M	Despite higher labour cost, Company B generated nearly 12 times the gross profit because revenue growth far outpaced expenses.
Profit margin (profit ÷ revenue collected)	~15 %	~33 %	Profitability more than doubled, highlighting that direct quoting can yield both growth and efficiency when managed correctly.

Financial metric	Company A	Company B	Interpretation
Composite score	12,309	70,800	FSM-Sim's Composite Score™ [*] rewards revenue and job completion while penalising delays, errors, and dropped work. Company B outperformed dramatically.

Error rates and reliability

Metric	Company A	Company B	Interpretation
Transmission errors per request	0.66	0.42	Company B had a 36% lower error rate per completed work order relative to Company A.
Dropped or abandoned requests	0	20	Twenty requests were dropped in the streamlined scenario, signalling that high workload and dispatcher bottlenecks can degrade customer experience if not managed.
Outstanding receivables	\$20,130	\$65,250	Higher receivables reflect the larger sales volume and the need for more robust invoicing processes.

Observations and implications

- 1. Direct, in-field quoting dramatically increases demand capture.** Customers who receive a price on the spot are more likely to proceed. The data showed a 27-point increase in acceptance rate and a five-fold increase in completed jobs. That direction is consistent with broader quote-to-cash evidence. Salesforce says CPQ users have reported 10 times faster quote generation, a 95% reduction in approval time, and two times faster movement from quote to cash [1].
- 2. Revenue growth outweighs added labour costs when operations scale appropriately.** Company B hired 18 additional technicians and expanded its dispatch and accounting teams. Even after quadrupling labour expense, gross profit grew nearly twelve-fold. However, without sufficient staffing or automation, the dispatch queue reached full utilisation and became a bottleneck, causing job delays and dropped requests.
- 3. Eliminating estimators removes a bottleneck but shifts complexity.** In Company A, estimators had a backlog of nearly eight jobs on average. Removing this role in Company B eliminated that queue. This model has technicians

handling quoting and customer communication. McKinsey argues that technicians are often the main on-premises customer contact and can support upselling and cross-selling, but only when they are equipped with simple tools, standardized offers, and the right training [3].

4. **Faster quote delivery improves conversion and customer experience.** The streamlined workflow shortened quote turnaround and improved the acceptance rate. Outside field service, similar patterns show up in proposal workflow case studies. PandaDoc reports that Rootly improved close rates by 16% after reducing proposal creation time by two hours [6]. Zendesk reports that 73% of customers prioritize fast resolution and 59% say fast response matters most [7].
5. **Operational risk increases with scale.** Company B's higher request traffic produced 20 dropped jobs. Real-world deployments would need clear procedures for handling missed approvals.
6. **Higher revenue requires robust accounting.** The process flow assumed prompt invoicing and an average payment delay of 52 hours. In practice, larger receivable balances and more invoices require dedicated billing processes and customer credit management. Stripe notes that AR automation can reduce human error and accelerate collections by handling invoicing, reminders, and reconciliation more consistently [4].

Real-world evidence and context

- **Technicians as revenue enablers.** McKinsey argues that technicians are often the main in-person customer contact, which makes them well placed to identify upsell and cross-sell opportunities. The same article cites examples where analytics-led service selling lifted revenue by 10% in less than three months, and a simple standardized sign-up approach lifted service revenue by 20% for a technical-services provider [3].
- **Automated quoting and proposal workflows can improve commercial performance outside field service.** Salesforce says CPQ users have reported substantially faster quote generation and approval times [1]. PandaDoc reports that Neon CRM cut turnaround time by 40% and earned 20% more revenue per salesperson after improving its document workflow [5].
- **Fast follow-up matters.** In a HubSpot case study, Ceros reduced lead response time to under five minutes, which the company says increased conversion rates across the funnel [2]. This does not map perfectly to field quoting, but it supports the same general point: speed changes outcomes.

Conclusion

The FSM-Sim™ 2.5 simulations provide quantitative evidence that in-field, autonomous quoting can unlock significant growth. Company B's streamlined workflow delivered more jobs, higher revenue, and substantially greater profits than the traditional model, even after adding technicians and support staff. The improvements were driven by faster quote delivery, higher acceptance rates, and elimination of the estimator bottleneck.

These external company sources are directional rather than direct field service proofs, but they point the same way: when frontline staff are equipped to identify opportunities, quote cycles get faster, and finance processes keep pace, conversion and revenue can improve [1][2][3][4][5][6][7]. However, the transition still requires careful management. Businesses must ensure pricing consistency, invest in accounting infrastructure, train technicians for a dual service and commercial role, and monitor customer experience.

For field service companies seeking to grow without proportionally increasing back-office staff, a streamlined workflow offers a compelling path. By combining automated pricing, mobile quoting, and integrated scheduling, firms can capture more opportunities, convert them faster, and improve profitability, while remaining conscious of operational constraints and trade-offs.

Appendix

[*] Composite Score = Jobs Completed * 5 + Revenue Collected / 200 - Average Completion Time - Error Count * 2 - Dropped Jobs * 8

References

- [1] Salesforce, What Is CPQ, or Configure, Price, Quote? [[Source](#)]
- [2] HubSpot, Ceros used HubSpot to achieve 180% deal generation growth through smarter prospecting [[Source](#)]
- [3] McKinsey & Company, Industrial services' overlooked sales force: Their technicians [[Source](#)]
- [4] Stripe, Simplifying accounts receivable with finance automation [[Source](#)]
- [5] PandaDoc, Customer Case Study: Neon CRM [[Source](#)]
- [6] PandaDoc, Rootly slash two hours per proposal and boost close rates [[Source](#)]
- [7] Zendesk, Here's how companies actually got faster at solving customer issues last year [[Source](#)]