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Mitigating procurement value leakage with generative AI

In an era of unprecedented disruption, procurement is no longer just about negotiating costs but is at the forefront of navigating complexity and protecting value.

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The role of the procurement function is expanding from bargain hunter to business partner. Chief procurement officers (CPOs) recognize they must adopt more digitally sophisticated, data-driven practices to cope with both immediate challenges and longer-term goals—with 24 percent of respondents in a 2024 McKinsey procurement webinar saying digital enablement is now a core priority, up from just 2 percent in 2023.[1]

In short, procurement is pivoting to become a strategic value lever for the business—and embracing digital transformation is the unlock to both creating and preserving value. Advanced analytics and AI are seen as critical to drive this next-level performance. Indeed, technology such as generative AI (gen AI) is poised to help procurement meet these new demands.

Contract optimization and compliance create opportunities for immediate impact

Amid this drive for transformation, companies are zeroing in on two sizable areas of improvement across source-to-pay. Pain points in both these areas—contract optimization and contract compliance—have long plagued procurement, quietly draining value (Exhibit 1). Tackling them represents a major opportunity to boost the bottom line.

Contract optimization.
A key area of inefficiency in procurement is the way contracts are written and structured. Research shows that poorly written contracts are a significant contributor to value leakage, often leading to disputes, compliance issues, and missed cost-saving opportunities. In fact, our previous work indicated that up to 80 percent of procurement functions are not fully aware of competitive terms and contract structure, and many disputes can be traced back to ambiguous or inconsistent contract language.[2] Many procurement teams still rely on standard templates or manually drafted agreements that fail to capture the full intent of a negotiation.

Contract compliance.
A huge share of enterprise spending is governed by contracts, yet many organizations fail to fully enforce those agreements. Negotiated savings and terms often do not materialize to the bottom line because they are not adequately enforced. Companies often miss rebates, volume discounts, or service credits they're entitled to. They may also tolerate off-contract ("maverick") purchases at higher prices. All of this results in lost value. Our research found that unfulfilled supplier obligations

[1] n = 50 (2023); n = 40 (2024).
[2] Roman Belotserkovskiy, Jayant Sewak, Adina Teodorian, and Britta Lietke, "Contracting for performance: Unlocking additional value," McKinsey, May 2, 2018.

Exhibit 1

Procurement organizations face challenges with both negotiating competitive contracts and capturing the value they've negotiated.

Challenges

Source-to-contract			Invoice-to-pay			
Companies often negotiate inconsistent and suboptimal contract terms	Minimal understanding of competitiveness of proposed contract terms (during active negotiations)	Contract documents are unstructured data, which is difficult to process	Use of nonpreferred suppliers (maverick spend)	Contract terms and discounts do not align with invoiced amounts	Duplicative invoices result in double billing	Gap between real-time data and contractual agreements

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can leak roughly 2 percent of spend for large enterprises.[3] For a $2 billion annual spend, that equates to $40 million per year in wasted value. It's no surprise, then, that procurement leaders are paying attention; in one executive forum, 90 percent of participants said that digitizing contract management to flag noncompliance and leakage is business-critical going forward.[4] In short, ensuring suppliers and internal buyers adhere to negotiated contracts is a big—and largely untapped—lever for value preservation. The scale of the problem is significant: For example, one company discovered over $10 million in duplicate payments to suppliers after automating its billing and payment processes.[5] Simply put, payables leakage directly hits the bottom line; every dollar overpaid or not recovered is pure profit wasted.

Given the slim margins in many industries, plugging these leaks can be a game changer. Every contract term enforced and every erroneous payment avoided go straight to profit. These challenges, therefore, represent major opportunities: By improving contract compliance and invoice accuracy, companies can potentially reclaim millions in value. It's an area ripe for innovation, and indeed, next-generation solutions are now emerging to tackle contract leakage head-on.

Generative AI can tackle those opportunities

Advances in AI, and gen AI in particular, are proving to be powerful tools to address these longstanding leakages because of their ability to ingest and process unstructured data. Modern AI solutions can process vast amounts of procurement data—from complex contract language to thousands of invoices—in structured and unstructured formats far more efficiently (and accurately) than traditional manual methods. This opens the door for procurement teams to finally get a grip on compliance and errors at scale.

Here's how gen AI can help plug the value leaks in contracts and invoicing:

AI-powered contract compliance: Gen AI's strength in understanding and generating natural language makes it ideally suited for contract management. Large language models (LLMs) can be trained on a company's contract database to understand clauses, pricing terms, service-level agreements (SLAs), and other obligations. This enables a few breakthrough capabilities. First, AI can automatically extract key terms and obligations from contracts and organize them for monitoring. Organizations can also ensure they are instilling best-in-class contracting practices across their entire repository of contracts by leveraging AI to help identify where contracts might be missing key elements or clauses. Second, AI can continuously compare contracts to real transaction data. For example, an AI system can cross-check prices and discounts on each purchase against the master contract. If a supplier invoice comes in at a higher price than negotiated, the AI flags it immediately as noncompliant. This kind of real-time oversight was previously impossible at scale.

AI can ensure that negotiated value in contracts is fully realized by finding and fixing compliance gaps—whether by alerting humans or even by suggesting contract revisions to close loopholes. This promises to dramatically reduce the leakage from contracts.

Intelligent invoice reconciliation: The same advancements are supercharging the procure-to-pay cycle. Traditional invoice-matching systems often rely on rigid rules, and many companies still handle exceptions manually. Gen AI and machine learning are changing that by bringing

[3] Kalit Jain and Ed Woodcock, "A road map for digitizing source-to-pay," McKinsey, April 26, 2017.
[4] Roman Belotserkovskiy, Ailin Castro, and Lina Romero, "Procurement 2024: The next ten CPO actions to meet today's toughest challenges," McKinsey, March 29, 2024.
[5] Abhi Bhatnagar, Dany El Khoury, Stawan Kamani, and Amit Vashisht, "Getting business process outsourcing right in a digital future," McKinsey, February 15, 2022.

greater intelligence and automation to invoice processing. For instance, AI can automatically read and interpret invoices (using optical character recognition combined with LLMs), even if they come in different formats. It can then match each invoice line by line against purchase orders and contracted terms, verifying quantities, unit prices, tax, freight, payment terms, and more. Any discrepancy—an extra unit billed, a price markup, a missing discount—is instantly flagged for review. This means erroneous invoices can be caught before payment. Companies that deploy such solutions move from after-the-fact recovery audits to a proactive stance: As one report put it, what was once a retrospective process becomes forward-looking, with AI identifying sources of leakage early and stopping losses before they happen.

The impact on overpayments is immediate. For example, duplicate invoices can be detected by AI models that spot when two invoices have the same reference or details—a task that would be tedious for humans. AI can also automatically enforce compliance with payment terms. If a contract says net 60 days but an invoice is being paid in 30, the system can alert the team, enabling better working-capital management. (One analysis showed that if a company's actual payment timing is 15 days faster than agreed to—effectively giving vendors an interest-free loan worth millions—AI can help avoid such situations by aligning payments to contract terms.)

Moreover, automating invoice processing with AI greatly improves efficiency and accuracy. Routine invoices that fully match expectations can be "touchless," freeing up staff to focus on the problematic 5 to 10 percent that truly need attention. The cost savings can be substantial. Studies have found that using AI and automation to handle invoicing can reduce processing costs by as much as 80 percent.[6]

Crucially, the payoff from these AI interventions is significant. By eliminating value leaks, organizations translate lost dollars into realized savings. Recent analyses suggest that embedding AI at scale can reduce total procurement spend by 5 to 15 percent through better compliance and data-driven decision making.[7]

Large productivity gains: One estimate sees procurement teams improving efficiency by 50 to 80 percent in certain activities, alongside a 5 to 10 percent reduction in overall procurement operating costs, by using gen AI assistants for tasks like drafting documents and analyzing spend.[8]

By optimizing contract terms, reducing maverick spend and preempting invoice leakage with AI, companies can unlock immediate cost savings while positioning procurement as a smarter, more strategic function. These are precisely the kinds of quick wins and ROI that C-level leaders are looking for from digital transformation. And as we'll see next, some organizations have already begun this journey—providing a glimpse of what's possible.

Getting started on the journey to AI deployment

While the promise of AI in procurement is compelling, many leaders wonder how to get started in practice. Change can be daunting. Indeed, two-thirds of CPOs surveyed in 2023 believed gen AI was still years away from delivering substantive results.[9] There is understandable skepticism around accuracy, security, and integration with existing processes. "Gen AI is a great toy. . .good to play with, but our day-to-day work remains unchanged," says one senior procurement executive, voicing caution.

Yet forward-thinking organizations are already moving past the skeptics and piloting AI solutions in procurement—and reaping early benefits.

[6] Kalit Jain and Ed Woodcock, "A road map for digitizing source-to-pay," McKinsey, April 26, 2017.
[7] Alberto Oca, Rohit Panikkar, Chetan Sampat, and Thorne Brown, "Harnessing the power of AI in distribution operations," McKinsey, November 15, 2024.
[8] "Generative AI in the pharmaceutical industry: Moving from hype to reality," McKinsey, January 9, 2024.
[9] Aasheesh Mittal and Jennifer Spaulding Schmidt, "Making the leap with generative AI in procurement," McKinsey, March 20, 2024.

How are they starting the journey? Typically, by targeting specific, high-impact use cases (like the ones discussed in this article) and scaling from there. Here are a few examples of how companies have begun deploying AI to optimize procurement:

— *Automating contract clause benchmarking and review:* A leading beverage company wanted to identify commercial opportunities through improving contracts and the robustness of terms and conditions. The team leveraged a gen AI contract diagnostic tool to accelerate the extraction and evaluation of key clauses from contracts with more than 75 suppliers across six spend categories.

  In another situation, a proof of concept was conducted over three weeks, analyzing around 190 contracts in four different languages. The process identified an opportunity to save between 4 and 10 percent (€12 million to €30 million) on a total contract value of €293 million, through optimizing contractual terms and conditions. For this analysis, the average processing time per contract was about eight minutes, with an average evaluation accuracy of about 96 percent, whereas a manual review of these contracts would have likely taken several months to complete.

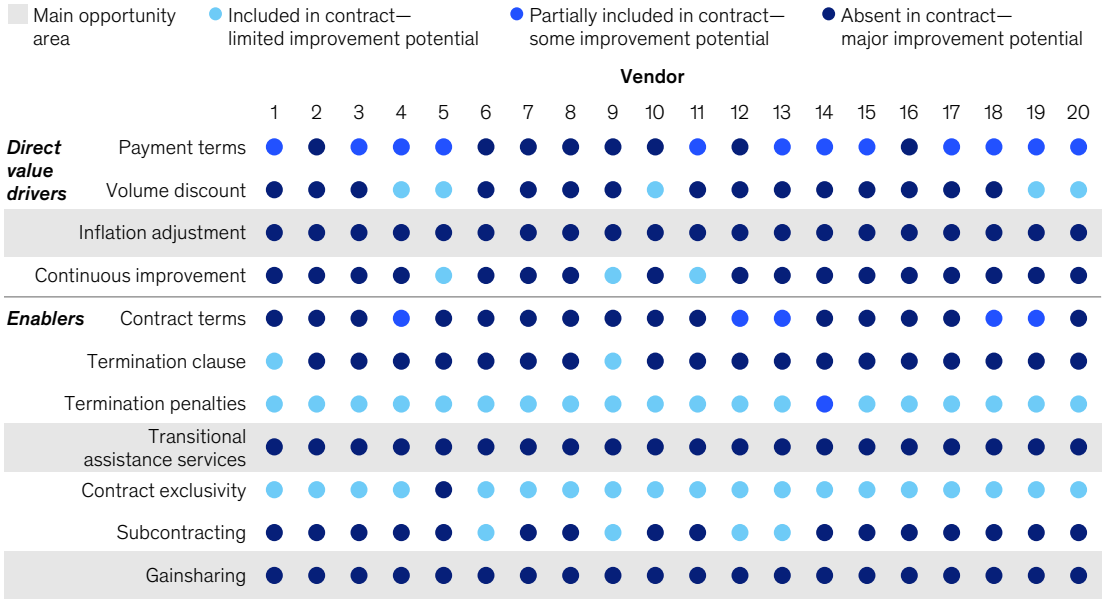
  Exhibit 2 illustrates how AI-driven contract optimization can identify significant vendor savings, with a sample assessment of 20 suppliers across 11 value creation levers.

— *Real-time compliance monitoring:* Some companies have started using AI-based dashboards to monitor procurement activity in real time. A global life sciences company with annual R&D procurement of over $4 billion annually had complex contracts with multiple discount structures applicable

Exhibit 2

AI-driven contract optimization can identify significant vendor savings.

Sample assessment of 20 vendors across 11 value creation levers



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for different scopes of work. Noncontracted line-level items started to emerge on budgets, and unclear inflation rates were applied to various geographic regions. Contractual and invoice complexity made it extremely challenging and time consuming for teams to monitor and reconcile the invoice terms to negotiated terms.

Instead, the teams opted to deploy a gen-AI-based invoice-to-contract compliance proof of value (PoV) in four weeks for about 10 percent of their R&D spend. The PoV was able to extract the complex discount structures from the contracts, pull in foreign exchange information, and conduct a value leakage assessment related to pricing, discounts, inflation, and noncontracted spend. The tool identified 4 percent in verified leakage with a value of more than $10 million.

These examples illustrate a pattern: Start with a focused AI use case that targets a known pain point, prove the value, and then expand. Pioneers often choose a domain such as contract management or invoice auditing because the benefits are tangible and relatively quick to capture (in cost savings or efficiency), and can make the overall effort self-funding. By demonstrating early wins, procurement leaders can get buy-in to broaden the AI deployment—for instance, extending from one category's contracts to all contracts, or from a subset of suppliers' invoices to the entire payables operation.

Equally important is investment in people and processes. Forward-looking CPOs are upskilling their teams (often creating a "procurement analytics" center of excellence) and changing mindsets to ensure these tools get embedded in the new way of working. They are also updating policies so that insights from AI—say, a flag on contract noncompliance—translate into action by procurement managers. In essence, they treat AI deployment as both a tech initiative and a change management journey. CPOs should build new capabilities for the buyer of the future, combining technical skills, data insights, and agile operating models.

The journey to AI-enabled procurement is just beginning, but it is rapidly gaining momentum. Procurement is at a pivotal moment where applying advanced technology can deliver outsized rewards. Companies that have taken the first steps—whether through automating a request for proposal, digitizing contracts, or auditing invoices with AI—are learning valuable lessons and already seeing returns. They demonstrate that embracing AI in procurement is not a theoretical exercise, but a practical route to efficiency and savings. As these early adopters scale up their efforts, the gap may widen between organizations that leverage AI and those that do not. The message for procurement leaders is clear: It's time to think big, start small, and scale fast. At an inflection point for procurement, gen AI is emerging as a key enabler to achieving the next S-curve of performance excellence.

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