



Delivering value in procurement with robotic process automation

Robotic process automation
can bring real cost savings
and process efficiencies to the
procurement organization.

January 2018

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Unlocking opportunities in procurement via robotic process automation

What if you could improve your company's overall procurement process and cut costs, all without hiring new staff or making a major IT investment?

What if those improvements included making procurement more efficient by streamlining supplier onboarding and contract review? Or improving your data management to reduce and correct duplicate entries? How about eliminating overpayment errors within accounts payable that could potentially save you millions of dollars?

For chief procurement officers, the rapidly developing technology of robotic process automation (RPA) offers these benefits—and more. RPA offers an opportunity to create improvements to the procurement function that will translate into real cost savings and efficiencies, while allowing for the better utilization of scarce procurement resources. In fact, even after automation using a leading practice off-the-shelf source-to-pay solution, procurement involves a number of time-consuming, manual processes that are ideally suited for bots created with RPA technology—for example, contract management, category management, third-party risk management, and supplier relationship management.

Obviously, these bots aren't the human-like machines of science fiction. They are sophisticated software that lays on top of an organization's IT systems to manipulate existing application software in the same way that a person today processes a transaction or completes a process.¹

RPA is increasingly attracting the attention of business leaders. Recent research from the London School of Economics suggests a return on investments in robotic technologies of between 600 percent and 800 percent for specific tasks.² By 2020, the global market for robots and artificial intelligence is expected to reach \$152.7 billion, says Gartner. And a recent study by HfS Research and KPMG LLP found that 62 percent of North American enterprises are looking at new opportunities available with RPA systems.³

The development of RPA and cognitive technologies is a result of significant advancements in machine intelligence, digital engagement, analytics, big data, social mobile, and cloud. And as they continue to evolve to increasingly sophisticated levels of automation, they have the potential to revolutionize business models.

¹ Source: HfS Research, "Framing a Constitution for Robotistan" (2013).

² Source: The London School of Economics and Political Science, "LSE—The IT Function and Robotic Process Automation" (2015).

³ Source: HfS Research and KPMG LLP, "Achieving Value Beyond Cost" (2015).

Opportunities for automation in the procurement organization

The rapid advances in RPA technology and the increasing number of companies looking to adopt bots offers strong motivation for procurement executives to seriously consider the deployment of bots within their organization.

But where to begin?

Too many RPA programs undertake a “Proof of Concept” path with the best of intents, but little to show in the way of results. They remain mired in small-scale one-off pilots that require time and attention but don’t move the needle on performance or capability. To take full advantage of the transformational potential of RPA, procurement organizations should think big—setting a vision for step change improvement in performance and capabilities.

Second, CPOs should identify the processes particularly well suited for RPA and the ways these processes can be automated and/or transformed by bots. What follows is a look at some of the specific procurement functions that could be handled by bots and an explanation of how these bots would work within each one.

Contract management

Manual contract review can bog down the contract management process. Generally, contract management involves the enterprise resource planning (ERP) system collecting and ingesting contracts from across the organization (by emails from company employees, crawling the network, scanned paper documents, SharePoint, etc.) and populating them in the Source-to-Pay (S2P) system.



A procurement bot can review these contracts, compare them against standard templates, and point out non-standard terms and conditions. The bot can then send a summary to the reviewer for use in supplier negotiation.

Supplier relationship and risk management

Supplier relationship management and risk management offer a number of areas that can benefit from implementing procurement bots:



- Bots can track contract use over time to identify and collect on rebates, tiered pricing, and other discounts, as well as remuneration changes or penalties related to service-level agreement issues. Bots can also proactively adjust invoice payments to account for reduced payments, as well as issue supplier notifications and address supplier questions or disputes.
- Typically, scorecarding for strategic suppliers requires gathering large amounts of data, both internally and externally. This data is often a mix of qualitative and quantitative measures. If scorecards for specific supplier segments can be standardized, then capturing, analyzing, and producing meaningful summaries for executive-level discussions on a monthly or quarterly basis could be automated or executed utilizing bots.
- Bots can help scan procurement staff e-mails and highlight the suppliers that have the largest number of escalations and interactions. This information can help procurement staff determine if the time spent on a supplier is in line with its relationship type—i.e., strategic vs. tactical.

- For large institutions and corporations, purchasing cards have increasingly replaced traditional procurement processes as a strategic form of payment. To facilitate a client's conversion to a purchasing card system, a bot can electronically email designated suppliers notifications of the customer's intent to switch to purchasing cards and gather the required information using simple, web-based forms. The bot will then use the gathered data and interface with the client's accounts-payable system to facilitate the establishment of the required electronic interchange.
- Due to resource constraints, companies may have limited processes to monitor supplier risk in a comprehensive and accurate manner. Bots can conduct supplier due diligence across a number of risk categories—processing, reviewing, and scoring supplier data of key risk indicators—in a fraction of the time it would take manually.

Supplier onboarding and enablement

Supplier onboarding processes are often manual, repetitive, and lengthy. Procurement bots can automate many of these tasks, including background checks, supplier document review, and supplier follow-up in cases of missing information or documents. These bots can also initiate background checks and perform all steps for onboarding a supplier, increasing accuracy and timeliness, and driving enhanced supplier collaboration.



Account payables

Accounts payable is one prominent function that could be made less costly, more efficient, and more accurate through the implementation of intelligent procurement bots.



The process would work something like this: A supplier submits an invoice. The procurement bot ingests the paper invoice, digitizes it, and performs several checks, e.g., for missing information, supplier name in the system, purchase order limit, and actual contract payouts. If there are discrepancies, the bot decides what to do based on specific rules and uses intelligent automation to address exceptions. If differences are found, the bot will prevent the invoice from being paid and initiates data requests from the supplier to gather the right information to address the discrepancy. If the discrepancy can be addressed, the bot can adjust the invoice automatically, utilize workflow to obtain approvals, and process. If no differences are found, the bot manages exceptions as necessary. The bot will send the invoice to a human operator for approval and final payout.

Using procurement bots for accounts payable can help reduce invoice reconciliation errors that can at times lead to remittance errors. Consider that addressing a 0.1 percent rate of error in invoice remittal for \$3 billion in indirect sourcing for an organization can lead to annual compliance savings of \$3 million.



requisition's text. If the information is insufficient to assign a category, the bot can initiate follow-up questions to the requisitioner or to the supplier to identify spend category.

Procurement performance management

Procurement organizations can have multiple systems from which they extract procurement data across the S2P life cycle, including spend data for suppliers, commodity categories, departments, and cost centers. In large organizations, it is not uncommon for some departments to use a different procurement system for procuring certain goods and services.

Tactical procurement

More advanced procurement bots can help review contracts and compare them against best-in-class templates and flag terms and conditions that are nonstandard, as well as help procurement resources address a large set of contracts that are tactical or nonstrategic in nature. This automation can help the procurement resources use the additional time to exercise a greater level of scrutiny and oversight on strategic contracts.

Category management

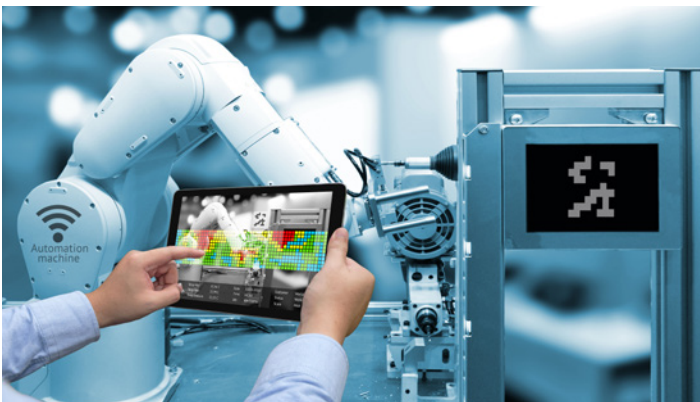
Reliance on manual processes makes it difficult to categorize transactions in an accurate and timely manner. Procurement bots can classify procurement transactions as they are requisitioned, using machine learning and fuzzy logic to identify likely category assignments based on the



Procurement bots can be used to automate all activities related to data extraction, loading and transformation (ETL) in the procurement organization as well as reporting and analytics. These ETL and reporting and analytics activities are structured, rule-based, and repetitive in nature of the task, and bots can be used to automate them.

Bots can be set up to extract procurement data from multiple systems used for procuring goods and services at specific times and store this data in specific locations. After extracting data from these systems, the bot can help with data transformation that procurement professionals spend several hours on.

Once the ETL process is automated for disparate procurement systems and a governance process in place



for master data, procurement bots can be used to create dashboards in any data visualization tool used by the procurement organization such as Tableau, Qlik, etc.

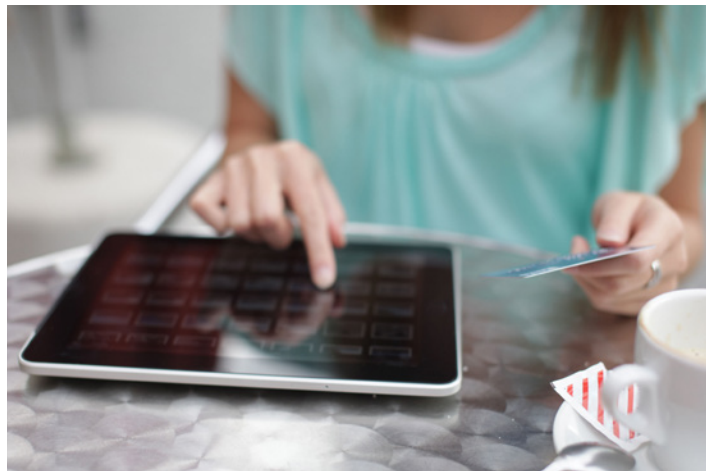
Master data management

Most procurement organizations have challenges with maintaining data sources that can be considered as a “single source of truth.” For example, vendor master data management (MDM) involves the compilation of supplier names, physical addresses, phone numbers, e-mail IDs, etc. These MDM elements can be referenced by other systems for data input. The existence of several processes and rules for creating, updating, and maintaining MDM can lead to duplication of data at times. Due to the unstructured and repetitive nature of these rules and processes, procurement bots are ideal tools for automating parts or all of these processes. Not only can this automation make the overall governance of the MDM more efficient, but it can also add the right checks and balances to ensure any erroneous entries are identified and addressed on priority.

As an example, consider this scenario: A procurement bot can scan through the existing vendor MDM and identify suppliers that have names that have been entered incorrectly. A manual operator can allow the procurement bot to normalize these supplier names avoiding incorrect references across several other systems. The same bot can

be enhanced to ensure the e-mail IDs and phone numbers are corrected through automated test e-mails and phone calls, and also cross-reference bank account information for accuracy.

Spend management and visibility



Applying automation to procurement spend data management can help increase visibility and compliance by increasing the accuracy of the spend data, increasing spend under management, and making it easier for the procurement resources to access information. For example, a bot can help classify procurement transactions as they are requisitioned by identifying category assignments based on the requisition's text. This can help classify spend into the right category bucket at the source, limiting the downstream need for reclassification, which is often time consuming and less than 100 percent accurate. Similar RPA technologies can help create a “chat bot” that can seamlessly interact with the spend analysis system and answer spend-related queries from the procurement staff.

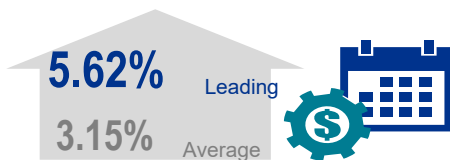


How bots make procurement “best-in-class”

We have seen how bots, when applied to various functions within the procurement organizations, can increase efficiencies and lower costs. Now, let us look at how they can help procurement enhance some specific key drivers from average to leading performance, helping CPOs create a “best-in-class” procurement organization.

OUTCOMES

Total annual spend cost savings⁴



Procurement cost as a % of spend⁵



ROI on procurement operating cost⁶

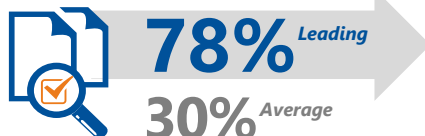


KEY DRIVERS

% of spend influenced by procurement⁷



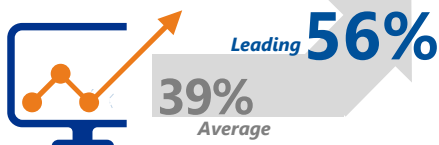
Procurement contract compliance⁸



Strategic suppliers % of active⁹



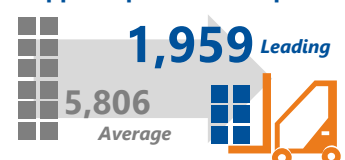
% of addressable spend sourced annually⁷



Number of FTEs for \$1B spend⁵



Suppliers per \$ billion spend¹⁰



⁴ Source: Hackett Enterprise Key Issues (2016).

⁵ Source: CAPS “Cross Industry Research” (2013).

⁶ Source: Hackett Group “Procurement Metrics that Matter” (2014).

⁷ Source: Ardent Partners CPO Rising (2017).

⁸ Source: Aberdeen Group, “The State of Strategic Sourcing” (March, 2011).

⁹ Source: APQC “Open Standard Benchmarks” (2014).

¹⁰ Source: CAPS “Cross Industry Research” (2013).

How to evaluate RPA opportunities in your procurement organization

As we have shown, the procurement function includes many processes that can be made more efficient through the application of RPA. Identifying these processes, however, requires a thorough evaluation of procurement operations throughout the organization with regard to their suitability to be adapted for RPA.

Some of the first places to look for RPA opportunities is the set of repetitive, duplicative, and standardized tasks performed by staff around the organization. Data management is another area that can be greatly enhanced by automation. Look for instances where procurement data is stored across multiple systems within and across departments, or where procurement data is improperly categorized, making data consolidation, transformation, and analysis difficult.

What follows is a description of steps procurement organizations can take to begin identifying and evaluating potential opportunities for RPA.

Step 1: Review all procurement processes to identify and shortlist the processes that will benefit from automation. The typical processes that work well for RPA automation consist of one or more of the following characteristics.

- Highly manual and repetitive
- High-volume of transactions
- High variability in volumes
- Requires searching, collating, researching and/or updating information
- Can be easily decomposed into unambiguous rules
- Involves “swivel-chair” access to multiple existing systems or screens
- Involves significant transfer of data between screens or different applications

- Requires limited or non-internal company knowledge to execute
- Operates in a relatively stable technology/application environment
- Uses decision-making rules are stable
- Execution does not require significant analysis, judgment and/or interpretation
- Exceptions comprise a limited portion of transactions or steps
- Areas where human staffing capacity is constrained based on budget/availability or labor

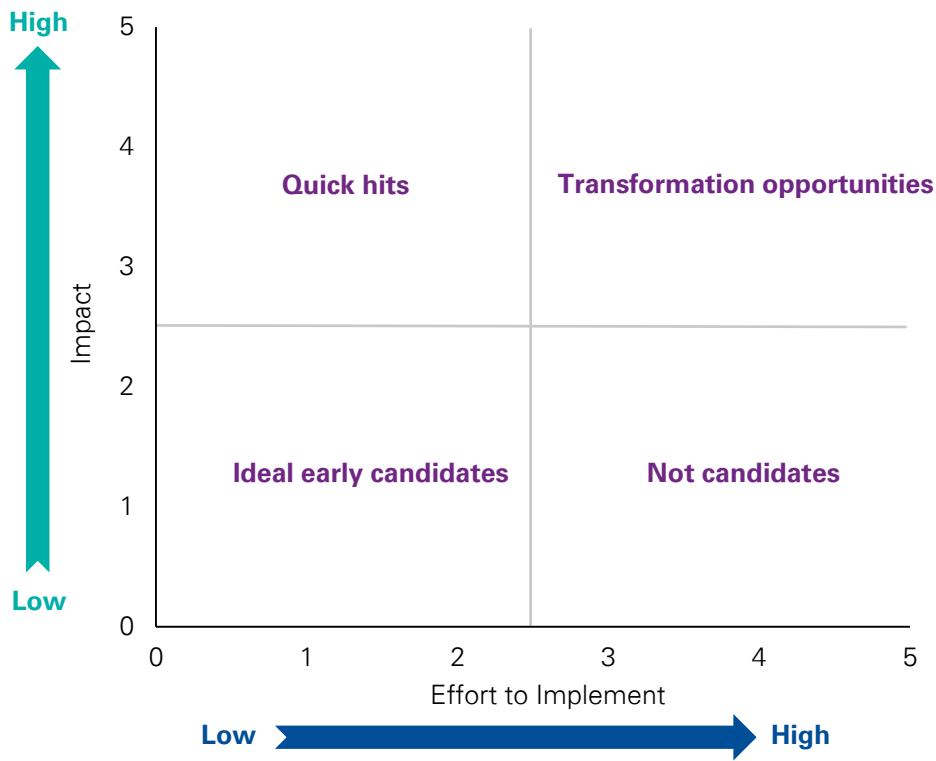
Step 2: The opportunity list generated based on the criteria in Step 1 should then be prioritized based on an RPA segmentation framework in the figure below to target the greatest ROI. The prioritization typically considers the impact of the RPA opportunity as well as the effort to implement.

Impact factors:

- Number of resources that can be redeployed based on the automation
- Impact from improvement in quality or cycle time of the process

Effort to implement factors:

- Development and implementation cost
- Investment in licenses and other infrastructure
- Cost to adjust the RPA for any near term process or system changes



Step 3: For the highest priority opportunities, as well as for quick hits, the organization should develop a business case, estimating the economic and performance impact and developing a more granular implementation cost estimate.

Step 4: The portfolio of prioritized opportunities can then be organized into a time-phased roadmap that delivers quick hit improvements as well as deeper process efficiency enhancements over time, through a “waved” deployment.

Sample KPMG RPA implementations in the procurement organization

- A leading global energy provider wanted to automate its upstream goods-receipt and goods-issue process. The goods-receipt process provided a means for warehouse staff to systematically create a record for physically receiving items ordered through a purchase order (PO). The goods-issue process provides a means for warehouse staff to issue the items in the warehouse to the field. Both of these processes occur as part of material management (MM) and help maintain an accurate accounting and inventory of goods flowing into and leaving from the warehouse. KPMG helped create a procurement bot to automate both of the functions. The bot is helping the company maintain an accurate accounting and inventory of goods entering and exiting its warehouses and save thousands of man-hours spent on manual goods receipt and issue process.
- The accounting team at a leading exploration and production company was using a manual process for the intake, validation, and payment of work orders (approximately 3,500-4,000 per month). KPMG helped the company created a bot to automate the invoice matching and validation process. This process involves intake through email followed by a review cycle that occurs within multiple systems (depending on the vendor and location of work being performed). The bot implementation will provide a viable means to achieving its strategic goals for the next 10 years.

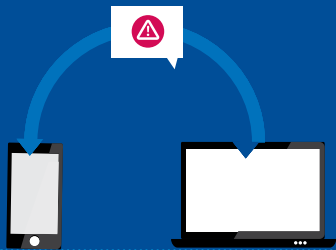




The business case for implementing procurement bots

Low capital and operations and maintenance costs

Typically, companies planning to adopt new technologies face the prospect of a large financial investment, long, and possibly high-risk implementations and transformation initiatives. And the return on that investment can be uncertain or years away. Implementing procurement bots can help automate existing processes with low investment and higher efficiency—and without disrupting legacy systems. In addition to benefits already mentioned—namely, lower costs and increased efficiencies—incorporating procurement bots into procurement functions offers a number of other advantages:



Nonintrusive applications
that reside above enterprise
applications



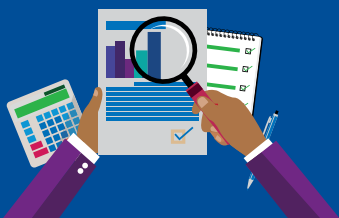
Interfaces primarily
at the UI level



Configurations vs.
software coding



Typically a business initiative
not an IT program



Provides complete auditable transaction record



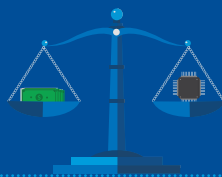
40–70 percent cost take out for relevant functions



Access to “rocket scientists” who can codify manual processes



Model is scalable, and is largely independent of labor growth



Revenue/profit not correlated to people

Final thoughts

Alignment with other functions within the organization on the use of RPA is important. Procurement should work with IT, finance, and other functions on selection of the specific RPA tools to be used, on the governance of RPA, and on the approach to organizational change management. However, procurement should avoid technology-centric proof of concepts and instead should aim for a step-change improvement in S2P, using RPA to transform current work, overcoming complexity, fragmented processes, gaps in data and visibility, system gaps, and limited resources. CPOs should also consider the ability of RPA to help the organization move from reactive to predictive insights and to take up the many low-value tasks that distract highly skilled resources, preventing them from strategic work.

CPOs don't have to follow the maturity curve before thinking about implementing RPA. One of the advantages of automation is that it can allow leadership to "fast track" the maturity of their organizations. One can see an analogy in how developing countries matured their

telecommunications infrastructure by moving directly to mobile networks, bypassing the older technology of copper fixed-lined networks.

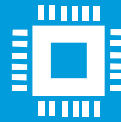
Likewise, smart CPOs can bypass heavy investments in standard technology solutions and instead invest in RPA, which can provide many more benefits, since automation is much more than just another tool offering.

Automation of both tactical and strategic procurement activities is clearly a disruptive force that will influence procurement organizations in more ways than imaginable, helping them to continue to be a true and highly recognized "value driver" for their organizations.

Action steps: How should a CPO begin the digital procurement journey?



Revisit the current vision for Procurement; consider the opportunity to drive step change improvement in the end-to-end Source to Pay cycle



Establish digital procurement governance/align with broader digital labor governance



Identify specific areas of value leakage in the source-to-pay cycle



Select the right providers and partners to assist with the implementation



Identify and prioritize the areas where digital procurement can generate value



Establish a change management strategy to ensure effectiveness of adoption of digital procurement



Develop a strategy, road map, and business case for implementing digital procurement

The KPMG experience with bots in procurement

We are an industry leader in automation.

KPMG is using Digital Labor to transform how our clients operate:

Enable efficiency through full robotization life cycle



We have assisted multiple clients to create, implement, and execute a well-developed RPA road map for value realization.

We have supported clients through the building of RPAs, understanding the impact to affected stakeholders, and rolling out of solutions on a global scale.

Solve business issues through digital labor



KPMG has applied Digital Labor technologies to pervasive finance organization issues, forever changing how our clients conduct these activities and continue to evolve.

KPMG's People and Change practice has significant experience helping clients across most industries and of various sizes address their most pressing people issues.



Defining new ways of working through cognitive automation

Working in an exclusive arrangement with IBM Watson, KPMG is working to solve industry problems, and reinvent how we serve our clients.

KPMG digital labor thought leadership



The creative CIOs agenda: Getting started with digital labor



Digital Labor and the future of finance



RPA & Cognitive Automation in Healthcare










Transforming business models with RPA



Bots in the back office: The coming Sprint of digital labor

KPMG's digital labor credentials cover multiple industries.

More than 600 bots have been successfully deployed

							
Client	Multinational motionpicture studio	Multinational telecom companies	Multinational beverage manufacturer	Multinational life sciences companies	Large commercial banks	U.S. utility companies	World's largest retailer
Industry	Media/entertainment	Telecommunications	Food and beverage	Life Sciences & Healthcare	Banking	Energy & utilities	Consumer retail
Scope	<ul style="list-style-type: none"> Automation assessment of 98 finance processes Proof of Concept on the inter-company process Technology vendor assessment 	<ul style="list-style-type: none"> COE design Change management Bot design and build Bot QA Infrastructure and Architecture Support Training 	<ul style="list-style-type: none"> COE design Change management and comms Bot design, build and test Functional and technical design 	<ul style="list-style-type: none"> Functional and technical design specification Proof of Concepts Pilot deployments Chat Bots Proof of Concepts 	<ul style="list-style-type: none"> Automation of customer onboarding compliance Extraction of unstructured data and NLP Risk assessment prioritization Proof of Concept 	<ul style="list-style-type: none"> Process decomposition mapping Automation opportunity analysis Automation strategy development Chat Bots Proof of Concepts 	<ul style="list-style-type: none"> Digital Labor blueprint and road map DL Governance Model for Global Shared Services Evaluation of technology platforms Bot build for Finance and HR processes
Maturity	Assessment, Proof of Concept	Mature	Mature	Proof of Concept, Pilot	Pilot	Proof of Concept, Pilot and Beyond	Mature





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