



Destination Augmentation

Robotic process automation (RPA) can help the tax function enhance VAT management

John Viglione, Executive Vice President, Vertex Inc.

“Chess
is the
struggle
against
error.”

– Johannes Zukertort

IT TURNS OUT THAT COMPETITIVE CHESS PLAYERS AND CORPORATE TAX FUNCTIONS HAVE A LOT IN COMMON.

This is the case for a couple of reasons, both of which shed new light on the complex challenge of managing the end-to-end value added tax (VAT) lifecycle and the ways robotic process automation (RPA) can help address that complexity while delivering many other benefits.

First, a chess player’s primary objective is to sidestep errors that can lead to much larger problems, according to Zukertort, who was one of the world’s best players in the late 19th Century. VAT managers and other tax professionals adhere to a similar guiding principle, especially with regard to tax determination and VAT compliance. Second, many modern chess players have embraced advanced technology to sharpen their skills. A little more than a century after Zukertort’s heyday, Chess Grandmaster Garry Kasparov lost a six-game match to an IBM supercomputer fueled by 1990s-era artificial intelligence (AI). The outcome was shocking at the time.

Kasparov’s response to his historic loss was equally shocking, and it remains highly instructive today: He embraced AI technology and actively promoted the notion that human chess players can improve their games more effectively and dramatically with the aid of advanced technology. Kasparov later organized chess matches between AI programs and chess players using AI while playing. The “augmented” chess players handily defeated their pure-AI opponents. Not coincidentally, there are more than twice as many chess grand masters in the world today – many of whom train with AI – than there were prior to Kasparov’s stunning loss to Deep Blue.¹

Just as advanced technology can help sharpen the skills of the world’s greatest chess players so, too, can it bring about significant productivity, quality and cost-reduction improvements in tax functions. More specifically, RPA can help VAT managers and professionals currently overwhelmed with heavy doses of manual, repeatable and time-consuming work reallocate much more attention to more strategic activities.

Making these strides through the use of RPA requires an understanding of the technology, its benefits, and current applications; knowledge of how RPA tools can support the VAT management lifecycle; and the consideration of several factors that are pivotal to RPA success.

DIGITAL DUCT TAPE'S STRONG ROI

Vertex Executive Vice President John Viglione has described RPA as the “Duct tape of the digital age.” His characterization emphasizes that the technology enhances other systems and applications as opposed to serving as a comprehensive solution in and of itself. (RPA invites colorful characterizations – London School of Economics Technology Professor Leslie Wilcocks has noted that RPA “takes the robot out of the human.”²)

RPA is a workflow technology that bridges different technology systems and applications that would not otherwise be able to communicate without substantial manual intervention. It does so by automatically completing rules-based tasks. (When you watch an RPA application in action, you see the mouse moving about the screen, words being typed and applications being opened and closed as if a human were pecking away at the keyboard.) RPA is well-suited to enhance parts of the organization – such as finance and accounting, compliance, internal audit and tax—where manual, repeatable and time-consuming processes still exist in relatively higher numbers.

To date, some of the most common RPA applications have helped drive significant improvements in customer order processes, payroll processing, insurance claims processes, compliance management and reporting, patient registration, credit card application processing, new employee onboarding and more.

A Deloitte managing director recently shared with *CIO* magazine how a bank used RPA to support its redesigned claims process. All told, 85 bots (i.e., individual RPA applications) were deployed to run 13 processes, which enabled the financial institution to process 1.5 million return-funds requests—an additional capacity that equated to more than 200 full-time employees but at only approximately 30 percent of the cost of adding those workers. The same article reports that one of the world’s largest retailers has deployed some 500 bots to “automate anything from answering employee questions to retrieving useful information from audit documents.”³ An insurance company recently deployed RPA to execute 500 premium advice notices. Prior to RPA, the process – which involved numerous manual interventions and information handoffs, as well as the extraction of data from different systems—consumed two days. Now it takes 30 minutes.⁴

A growing collection of these types of RPA experiences feature a common set of benefits, including:

- **Speed and productivity increases:** As the examples above indicate, RPA applications can generate major productivity gains, in large part, because they can perform tasks at more than 4GHz, 24 hours a day, seven days a week.
- **Fewer errors, higher quality:** Bots are much better than humans at performing routine tasks. They do not suffer from fatigue. Research shows that “the human brain is wired to avoid continuous decision-making, particularly in repetitive situations where the brain can easily slip into ‘autopilot’ mode.”⁵
- **Cost reduction:** When the LSE studied 16 real-world RPA installments, the London School of Economics researchers found that the return on investment ranged from 30 percent to 200 percent in the first year of use. “But it’s wrong to look just at the short-term financial gains—particularly if those are simply a result of labor savings,” Wilcocks warns. “That approach does not do justice to the power of the software because there are multiple business benefits.”⁶

- **Flexibility and scalability:** Bots are highly adaptable. They can be created and deployed quickly and require relatively minimal training to use. These qualities also make RPA highly scalable. Companies can quickly ramp up the use of new bots and then shut down the servers they reside on when they are no longer needed. “One of the biggest advantages of RPA is its ease of deployment,” according to PwC. “RPA typically does not involve a large-scale tech integration. Instead, it can be installed one user at a time. Tech-savvy professionals may install RPA software on their own computers ... and get up and running within a matter of days.”⁷
- **Employee satisfaction:** One of RPA’s primary benefits is that it gives employees more time to focus on higher-value, and often more fulfilling, activities. This occurs because bots tend to take on responsibility for executing repetitive portions of a process (or a job role) as opposed to the entire process (or job role). As a result, RPA applications require varying levels of human judgment, sense-making and/or oversight. In every use case that the London School of Economic group evaluated, “people welcomed the technology because they hated the tasks that the machines now do and it relived them of the pressure of work.”⁸

DETERMINING HOW RPA CAN LEAD TO VAT MASTERY

Given how much bots have improved a wide range of routinized processes and data collection and transfer activities, it stands to reason that RPA can help tax functions progress toward VAT lifecycle management mastery.

Getting started on this effort requires tax managers to evaluate their underlying VAT management processes to determine where RPA is a fit. Tax leaders should identify where VAT teams are spending the bulk of their time and resources to select tasks that can be more effectively performed with RPA. Parts of the VAT management lifecycle in which employees must locate, extract and transfer data are often the first place to consider for an RPA application. In this case, the data must be structured in a way so that it is clean and usable.

However, the data may not be clean and usable. This is why the age-old warning against automating broken and/or suboptimal processes holds true for RPA. It is important for tax managers to assess the efficacy of how the entire VAT lifecycle is currently managed before introducing RPA applications. These evaluations should scrutinize each component of the VAT lifecycle: VAT compliance, the management of VAT data for reporting and analytics, and VAT audit as well as quality assurance and continuous improvement. And VAT teams should concentrate on the following areas:

1. **People:** VAT teams need to have the right people with the right skillsets. These people need to be supported with training and knowledge-sharing to ensure they remain current on the latest tax rules and regulations, as well as the latest technology.
2. **Process and Governance:** VAT teams should have lean, repeatable and documented processes and controls in place to support all aspects of the VAT lifecycle, whether they cover the regular compliance process or other processes, such as managing tax audits.
3. **Technology:** Tax functions should have the right advanced tax technology in place to support their unique needs, as well as those of the organization. To manage the increasing complexity, while elevating the value that the VAT team delivers, tax functions should have an effective management tool that helps measure and monitor performance. It should also ensure that resources are focused on areas where the function can deliver the largest impact.

VAT BOTS IN ACTION

Once these types of capabilities are in place, VAT teams can move ahead with RPA. One of several VAT management areas suitable for RPA support is the handling of customers' VAT-exemption status. PwC consultants recently staged a demonstration of an RPA application that automated processing of customer VAT exemptions.⁹

In the case example the PwC experts shared, a company collects its customer's VAT exemption status in a CRM application that operates independently of its ERP system. The process to ensure that sales to a specific customer are effectively exempt from VAT is managed through the company's tax engine (the customer's VAT exempt status is maintained in the tax engine). *Prior* to the RPA implementation, the process of establishing a customer's VAT exempt status worked as follows:

1. A tax professional would periodically check the CRM application for customers with VAT exempt status.
2. A tax professional would periodically check whether the customers with vat exempt status were already set up as exempt in the tax engine.
3. If the exempt customer was not yet set up in tax engine, a tax professional would manually create a record for that customer and flag the customer as exempt—an activity that required multiple steps.

This highly manual process was comprehensively and precisely mapped out. Once that was completed, the process was relatively quickly designed to be performed by an RPA application, which now performs all three steps identified above. As a result, the only manual work related to this process that a tax professional now conducts simply include monitoring the RPA application.


This RPA implementation delivered benefits beyond efficiency gains, according to the PwC team: Human errors within the process have been eliminated, employees have been liberated from conducting those manual review and comparison tasks, and the VAT unit has effectively eliminated delays in execution related to billing errors as there are no more delays in flagging customers as exempt.

FIVE SUCCESS FACTORS

Although the design of the VAT exemption application required some work, its straightforward nature – identifying repetitive, manual activities within a set of activities and then designing a bot to perform those tasks – characterizes the majority of RPA projects.

Of course, "straightforward" does not mean success is guaranteed. A lot can go wrong, which is why it is crucial to consider the following RPA practices and qualities:

1. **Human oversight and intervention is required:** Again, the optimal form of RPA augments, rather than replaces, humans. Bots cannot structure data; humans are needed to do so. Bots also have difficulty dealing with exceptions and are very sensitive to changes in the user interface of the applications they interact with. As a result, IT professionals should create rules governing exceptions. As more bots join tax functions and work side-by-side VAT professionals, they will need more human oversight and management to thrive.

- 
2. **IT support is crucial:** Most RPA efforts are “business-led,” meaning that the work is initiated by business units and functions with first-hand knowledge of their own processes. However, IT involvement is critical. IT’s expertise is needed to ensure that the proper technical architecture is in place and that the RPA operating model is properly configured.
 3. **Governance, risk and compliance (GRC) requirements require attention:** When bots take over process steps previously performed by employees, those tasks still need to be executed in accordance with all relevant internal controls, and GRC requirements, policies and standards.
 4. **Triple-check your business case:** Calculating the returns on RPA can be difficult; the London School of Economics’ one-year ROI estimates ranged by a factor of more than six. It also can be difficult to quantify the positive impacts of redirecting varying portions of numerous employees day to higher-value activities (some of which may require retraining).
 5. **Manage change:** The relative ease and speed with which bots can be designed and deployed often results in change management considerations being glossed over. That neglect can cause significant problems. Job roles often need to be reconfigured, related processes need to be adjusted, and affected employees need clear guidance on what is expected of them after bots are turned on.

CONCLUSION: THINK TWO STEPS AHEAD

Tax leaders and VAT managers considering an RPA implementation should take a page from chess players by thinking two steps ahead to manage and communicate the changes to tax management processes and job roles that bots bring about.

By understanding the types of processes RPA is best suited for, ensuring that their VAT management processes are in optimal shape and adhering to project management fundamentals, tax functions will have powerful new tools at their disposal to augment their existing people, processes and tax technology.

ABOUT VERTEX

Vertex Inc., has been a leading provider of tax technology and services, enabling companies of all sizes to realize the full strategic potential of the tax function by automating and integrating tax processes, while leveraging advanced and predictive analytics of tax data. Vertex provides cloud-based, on-premise, and hosted solutions that can be tailored to specific industries for every major line of tax, including income, sales and consumer use, value added and payroll. Headquartered in Pennsylvania, Vertex is a privately held company that employs over 900 professionals and serves companies across the globe.

For more information about Vertex, visit www.vertexinc.com or follow Vertex on Twitter [@vertexinc](https://twitter.com/vertexinc).

END NOTES

1. Kelly, Kevin. *The Inevitable: Understanding the 12 Technological Forces that will Shape our Future*. Penguin Books, ©2016
2. *The value of robotic process automation*, McKinsey & Company, March 2017: <https://www.mckinsey.com/industries/financial-services/our-insights/the-value-of-robotic-process-automation>.
3. Boulton, Cliff. *What is RPA? A revolution in business process automation*. CIO, May 25, 2018: <https://www.cio.com/article/3236451/business-process-management/what-is-rpa-robotic-process-automation-explained.html>.
4. *The value of robotic process automation*, McKinsey & Company, March 2017: <https://www.mckinsey.com/industries/financial-services/our-insights/the-value-of-robotic-process-automation>.
5. Bryan, Colin. 5 Lesson Learned from our Recent Robotics Process Automation Implementation, West Monroe Perspective, 2017.
6. *The value of robotic process automation*, McKinsey & Company, March 2017.
7. *Briefing: robotic process automation*, PwC, Nov. 3, 2017: <http://usblogs.pwc.com/emerging-technology/briefing-rpa/>.
8. *The value of robotic process automation*, McKinsey & Company, March 2017.
9. *Robotics and VAT – fact or fiction?* Vertex Exchange Amsterdam, April 18, 2018: <https://www.vertexexchange.com/europe>.



vertexinc.com

North America

King of Prussia, PA, USA

Latin America

São Paulo, BR

Europe

London, UK

Asia Pacific

Chennai, IN

