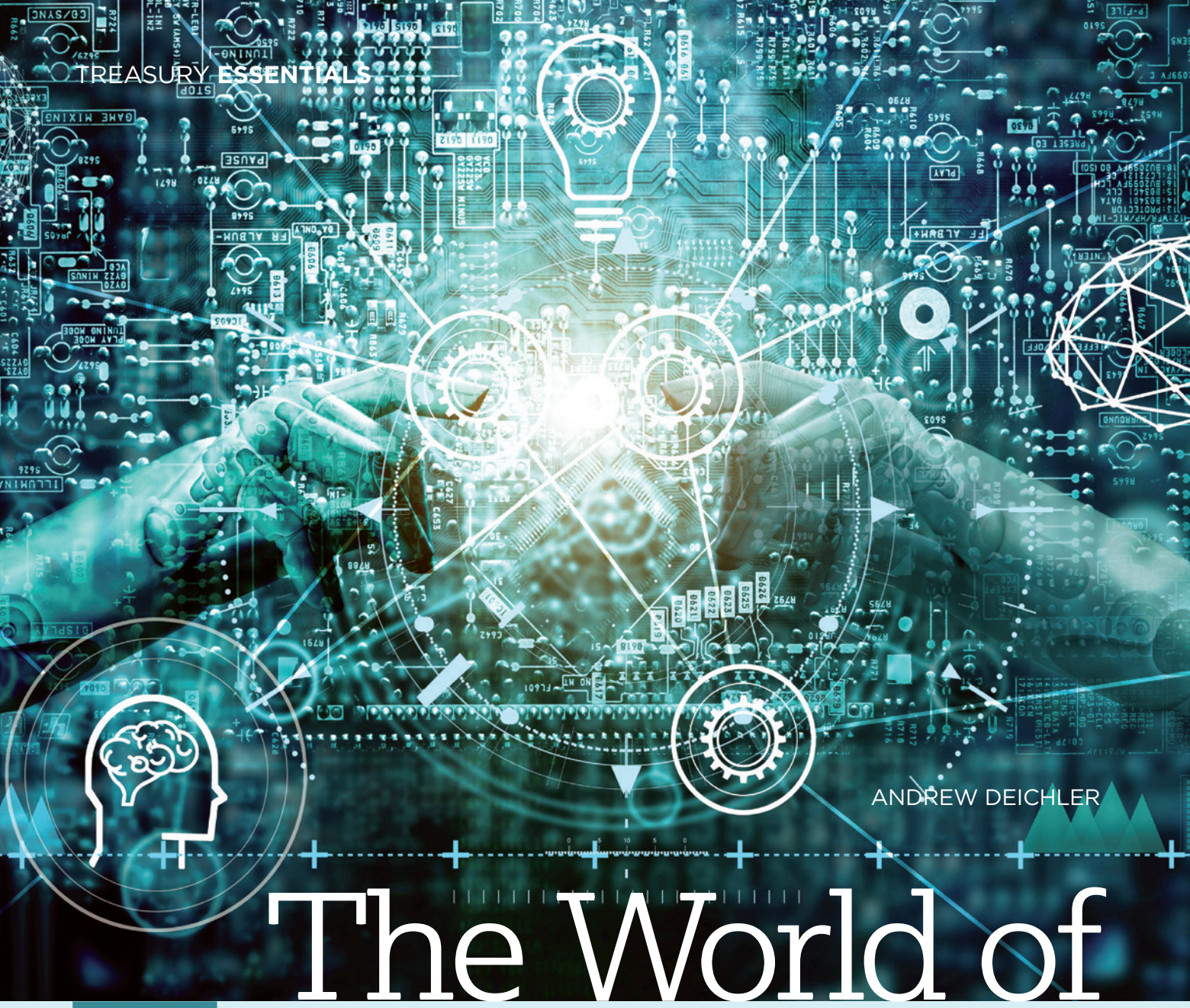

ANDREW DEICHLER

The World of Tomorrow

Robotics are the future of treasury and finance

Emerging technologies are changing finance functions from the top down. In particular, treasury and finance executives are being forced to explore how robotic process automation (RPA), artificial intelligence (AI) and machine learning (ML) can improve their operations overall.

A new Executive Guide, underwritten by Kyriba, explores why and how these technologies are reshaping finance. Released in two parts, the first section looks at RPA, while the second half explores AI and ML.

Robotic Process Automation

Robotic process automation (RPA) is the next step in the evolution of automation, using a software robot that mimics human actions. It is typically used in treasury and finance to streamline repetitive, manual processes, freeing practitioners up to focus on more strategic work.

According to Laurens Tijdhof, partner at Zanders, while there are many new technologies that will ultimately be adopted by treasury, RPA is one that is already having an impact. "The quick wins are typically in RPA," he said. "This is something that is available today; you can really start implementing it now."

Tijdhof noted that other new technologies such as big data and blockchain/distributed ledger technology require much more time and preparation to implement. "You need to have a data strategy to prepare for [those technologies], and you have to make sure your system environment is ready to process these new techniques," he said.

However, even though RPA is easier to adopt than some of these other innovations, that doesn't mean that corporates are flocking to it en masse. The technology is still new and it will still take some time before it becomes mainstream in treasury and finance.

RPA use cases

Although many companies who have adopted RPA are still in the pilot stage, some have taken the initiative and are applying the technology in a number of different areas.

In October of 2018, Chick-fil-A's finance department embarked on an RPA pilot for multiple use cases. One of the biggest challenges for the quick service restaurant chain was that it was experiencing rapid growth, and finance was experiencing capacity constraints as a result.

"Even if we wanted to hire more people, we could not find that many people fast enough to get them on board and up-to-speed in order to do the work at the pace it was growing," said Camille Felton, CTP, FP&A, senior lead analyst, financial analytics and solutions. "One of the things we really struggled with is that everyone at Chick-fil-A today, like other companies, is running at 110% capacity. So we really just said, 'Let's take some transactional work and see if we can reduce that effort to free up capacity in areas that need it most.' And those use cases were so successful that we were quickly able to see the value that this could have in the business."

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For treasury, the pilot use case was related to their cash position, which Chick-fil-A had previously performed manually in Excel. Chick-fil-A's cash management team had created multiple process efficiencies, but they were ultimately gathering copious amounts of data and then populating spreadsheets. While some of their banks had application programming interfaces (APIs) that could be leveraged to pull necessary inputs, others had not yet explored this capability. Additionally, APIs or even using a TMS required initial connection and ongoing support from an IT team that was equally strapped for time, so the treasury team stuck within technologies where they had direct expertise.

Enter RPA. "We said, 'What if we used a robot to pull down all of our transactional and balance activity from every single bank that we have?' And then we can use some tools to push that downstream so that at any given time, we could have the cash position readily available," Felton said. "That initial value-add pilot began to show everyone what RPA could do. Ultimately, we created a new group to do specifically RPA in financial services."

RPA was also used to resolve reconciliation issues in accounts payable (AP). "Chick-fil-A had an opportunity to improve the efficiency of matching what we ordered at our stores versus what we were invoiced. Initially,

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this was done more manually than we'd like to admit, again via Excel," she said. "But with RPA, we were able to utilize a bot to identify variances and report the discrepancies to our teams instead of them spending valuable time on this research daily."

Now with RPA, AP, treasury and all of financial services have begun to see process efficiencies that are freeing up teammates' time to shift their focus towards data-driven decisions.

Again, these may sound like problems that would be easily solved with a treasury system. However, in Chick-fil-A's case, it made more sense to go a different way. "Five years ago, we felt we were too small for a TMS," Felton said. "We just didn't have many banks. Now we're seeing we have a need for that, but we've found other ways around it because of our IT's capacity constraints. Due to our growth, IT's time is focused, rightfully so, on keeping the wheels on the bus for existing systems and their changes. If we were to implement a TMS, we'd get it stable and then turn around and say, 'We want to add another bank,' or, 'We want to change tools.' Our business is evolving faster than the pace of current IT implementations."

So RPA may be ideal for treasury departments that want to connect disparate systems but don't have the bandwidth to support a TMS or an API. "If we had a centralized data management platform that could help different systems talk to each other, as well as manage documents in a better way across departments, then we maybe we could use that instead," Felton said. "But in absence of that, and in absence of a TMS, RPA pairs well with other things."

Artificial intelligence and machine learning

A key limitation of RPA is that it is not actually "intelligent." RPA does what it is told. AI, in contrast, uses machine learning so that it can essentially think for itself. The software learns, without human intervention, by analyzing data. It can be used to develop new rules, instantly discover exceptions and build forecasts.

RPA is like an Excel macro; it is automation that mimics what the user tells it to mimic, noted Bob Stark, vice president of strategy for Kyriba. Treasury management systems (TMS) and other types of financial platforms don't typically rely on RPA within their product, but rather support their customers' use of robotic process to automate the interaction with other systems. "Machine learning, on the other hand, learns from the data that it receives within the treasury system so has a natural role within a TMS," he said.

But although AI has incredible potential to improve many processes for treasury and finance, it also has yet to catch on, wrote Jason Dobbs, senior manager, and Kyle Olovson, CTP, senior consultant, both with

Actualize Consulting, in a recent AFP article. They see this as irrational, particularly since humans have the ability to only recognize a few patterns. Machines, meanwhile, can pick up on patterns indefinitely.

AI use cases

There are many treasury use cases for AI, and even more will likely be revealed as practitioners familiarize themselves with the technology and what it can do.

AI and ML have incredible potential for cash management and forecasting, particularly when reconciling prior day bank files with yesterday's expected cash position. "This is one of the first cash management processes performed each day," Stark said. "And for some organizations, the volume of transactions is so big that it can take hours and multiple people to do that reconciliation."

ML can be used to identify and resolve those discrepancies on its own. "In the simple scenario where the prior day file reports a $1 million wire and we thought it was going to be $900,000, the cash manager will know through their experience what explains that $100,000 difference and what to do about it," Stark said. "Machine learning will learn from the user's manual reconciliation, so next time it will reconcile those transactions without human intervention."

But AI and ML can do more than detect anomalies—they can recognize when an exception isn't actually a problem. For example, your company might make a regular monthly payment to a supplier of approximately $10,000. However, a recent payment made at the end of the current month is $15,000. With rules-based automation or even RPA, you likely have a payment control that flags that 50% variance from the normal monthly amount, quarantining that payment for further review. But ML can recognize that this particular payment is part of a larger pattern where the last monthly payment in each quarter is substantially higher than the average.

AI can also help treasury as it consolidates copious amounts of data from ERP systems, TMS and other bespoke sources when doing cash forecasting. "Everyone cares about the accuracy in the end, but the process to get there is quite cumbersome in most cases—to get your hands on the data, then to mix all the data, and to make something out of it that makes sense," said Nicolas Christiaen, CEO and co-founder of Cashforce, who discussed AI and ML in an AFP 2019 session. "And then there are the people involved; you don't want to have 60 people tripping over each other to make that forecast."

To create the forecast, treasury needs to consolidate the data correctly to make sure it is getting the right data sources from the TMS and ERP systems. To improve the forecasting process for its clients, Cashforce looks at historical GL (general ledger) data. "We try to analyze the data historically to come up with insights; if you augment on top of the data you already have, you can make this smarter," Christiaen said.

He added, as an example, that attempting to forecast based on due dates for payments is pointless, as customers rarely pay precisely when you require them to. Hence why it is so important to look at the historical trends and patterns, if available.

The final step in Cashforce's process is what is called its back-testing algorithm. Based again on historical data, Christiaen's team looks at how good a system-based forecast measures itself against the actuals. "We're trying to understand the historical deviation of your system's forecastable data versus the actuals to come up with a segmented variance, and then inject that on top of the current forecast," he said. "To summarize, I would say it's using different smart data sources and different smart algorithms, which will optimize the accuracy of your forecast. With the back-testing algorithm, we've just scratched the surface, in my opinion, of what we can potentially do."

Taking the next step

According to the *2019 AFP Risk Survey*, underwritten by Marsh & McLennan Companies, fully 25 percent of respondents said they use RPA, artificial intelligence and blockchain in some capacity. Artificial intelligence and machine learning have a leg up on RPA because the software learns, without the need for human interaction. RPA is essentially process decision-making, where is AI/ML is data-driven decision-making. However, adopting AI/ML requires more of a mind shift for many treasury and finance departments to truly get on board with it.

Treasury and finance professionals may be apprehensive about adopting any of these technolgies because they fear they could lead to their jobs could ultimately being phased out. But it is much more likely their roles will simply need to evolve with the technology. The more familiar they become with it, the better off they'll be.

Download **Parts 1 and 2 of the AFP Executive Guide to Emerging Technologies,** underwritten by Kyriba, at **www.AFPonline.org/publications**