The New Digital Workforce

Robotic process automation emerges from the back office to take on core finance tasks.   By David McCann

In a few years, robotic process automation may very well merge with or be rendered moot by artificial intelligence. But for now RPA, as it is known, commands the attention of enterprises and their finance teams to a degree few relatively new technologies have.

Management consulting firm McKinsey says that more than 80% of companies it has spoken with are experimenting with, implementing, or broadly scaling the technology. And the activity is not confined to large companies—businesses across the size spectrum are piloting this flexible, promising software, according to Brandy Smith, of McKinsey's automation-at-scale practice.

As has been true since RPA's birth a few years ago, it's most commonly found in the back office, automating workflows like procure-to-pay, order-to-cash, and record-to-report. The common link among such processes and others suited to RPA: they are business-rules-based, non-subjective, repetitive tasks. Effective implementation can result in greater efficiency and productivity, fewer errors, and higher workforce productivity.

But now robotic software appears ready to move to a more visible position in the enterprise: companies are increasingly applying it to core finance processes.

Based on a survey of 64 corporate controllers at companies with greater than $1 billion in revenue, as well as other quantitative and qualitative research, Gartner found that 50% of controllers and their teams are either in the process of implementing RPA (31%) or are in what it calls "operational" mode (19%). And within just two years, Gartner expects 88% of such controllership functions to be in one of those two buckets.

Many companies, concerned about financial-reporting risk, had paused before expanding their use of RPA to core finance from shared services, notes Johanna Robinson, a finance practice leader at Gartner. But now

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that the technology has amply demonstrated its reliability, the move to core applications is in full swing.

Hours of Savings

Use of RPA now runs the gamut in finance, automating aspects of financial closing and consolidation; account, bank, and inter-company reconciliations; general-entry posting; cash flow-statement preparation; fixed-asset accounting; inventory accounting; and tax reporting, among other applications.

"If you're not investing in RPA for core finance functions, you're missing a lot of opportunities," Robinson says. And, ultimately, as AI becomes more available, mainstream, and useful, enterprises that haven't built the requisite automation skills and knowledge will be that much farther behind the curve, she adds.

As an example of the efficiencies to be gained from just error reduction, Gartner estimates that 70% of the accounting rework performed to fix errors before a financial close is necessarily manual. The rest of the rework is avoidable using automation.

For an accounting team with the equivalent of 40 full-time employees at an average annual salary of $75,000, that would amount to about 25,000 hours and $900,000 wasted on work that could be automated, Robinson estimates. "Our conversations with CFOs suggest that the real numbers could be twice that much," she adds.

Enterprises may expect to pay a lot

for such savings. But developing bots is generally inexpensive. "The cost of building them is much lower than what I'm used to from a technology-investment standpoint," says Deanna Strable, CFO of Principal Financial.

Still, few companies delving into RPA intend to use the technology to cut headcount. "We didn't go at this because of cost efficiency," Strable says. "We'll monitor that over time, but it's more because we're a growing organization. We need to support that and also reduce the chance that we'll have to increase staff."

Gaining knowledge about RPA programming, maintenance, and tracking—as a needed first step toward taking full advantage of intelligent automation—is a priority for the finance team at KPMG.

The Big Four accounting and professional services firm is about 55% of the way toward achieving an initial goal of creating 200,000 hours of workforce capacity savings. And the importance of that mission is not something that CFO David Turner plans to let his charges overlook.

He says it's important to convince existing staff that "creating capacity and scale" really is the top payoff. "I've

What RPA Costs

Typical recurring annual costs per individually purchased bot: $12,000 - $16,000

Typical recurring annual costs per bot, enterprise agreement (minimum 10 bots): $10,000

All-in, year-one costs per bot, including solution scoping, process re-engineering, programming, implementation, and testing: $40,000 **(estimated)**

Source: Gartner

Seeing Is Believing

A financial services company finds early success piloting RPA in treasury and tax.

● Shortly after Deanna Strable
● was promoted to CFO at Principal Financial in February 2017, she attended a conference for finance executives. While networking, she found that about half of the group was talking about robotic process automation.

"To be honest, I didn't even know what RPA was at that time," Strable says.

But the use cases her co-

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attendees had already found, mostly in accounts payable and finance operations, were eye-opening. She went back to the office and got to work, enlisting the aid of an IT executive to create a pilot program.

The processes identified as being ripe for automation "were maybe not the most complicated ones or those with the most potential benefits, but rather those we felt we could get up and running quickly and start to give people some exposure to what could be done with robotics," Strable recalls.

One bot was deployed in treasury, to run a daily process of reconciling cash and liquidity positions across a number of accounts.

When Strable viewed a demo of the bot in action, the process had to be slowed down so the human eye could follow it.

"It was just amazing, seeing it log into different systems, export data into Excel worksheets, format the worksheets, and identify outliers that needed to be emailed to a person."

Another pilot bot was programmed to automate data collection for a set of tax reports and streamline some of the manual tasks related to producing the reports. While the bot was built to handle a certain type of report, "we built it in a way that makes it very easy to replicate the coding to work for other types of reports," the CFO says.

A third bot performs daily reconciliations of bank accounts to the balances showing in Principal's ledger systems. Previously, a person spent four hours per day on the task; that's been greatly reduced.

While Principal's RPA journey has barely begun, it's already viewed as a big success. "Figuring out the ROI is easy," says Strable. "Just what we have in production right now should save us 75,000 hours annually." | **D.M.**

told them, 'Look, if you keep yourself current in capabilities and learn how to use robotics to make yourself more productive, why would I cut your job?'"

Turner intends to train the entire staff on how to program and leverage bots. "I then will set them loose on their own work flow," he says, "because I think they will find out what to do better and faster than we could."

Mindset Adjustments

How can organizations optimize the use of RPA? Gartner's Robinson offers some key thoughts.

First, to gauge the cost and produc-

Not the First Choice

For the finance chief of Zebra Technologies, RPA is "just part of the toolbox."

● Not all CFOs are brimming with
● enthusiasm about RPA or think it heralds a vast improvement in productivity.

At Zebra Technologies, a manufacturer of barcode scanners, data-tracking systems, and information management tools, finance chief Olivier Leonetti isn't expecting an automation revolution until AI capabilities become more mainstream.

Zebra employs robotics for some repetitive transactional processes, but only "at the fringe," Leonetti says. "For major operations, we believe we are better off hard-coding new automation processes into our ERP." Leonetti says his ERP offers a higher level of robustness and rigor than RPA.

However, some business automation experts are skeptical that Zebra's approach would work for most companies.

While many of the processes for which RPA is best suited can indeed be programmed into some ERP systems, "clients tell us it's hard to get the business case approved" unless a new ERP is being installed, says Weston Jones of Ernst & Young.

The issue is cost. While RPA is

Zebra Technologies creates augmented reality technology that helps increase productivity in warehouse environments, featuring optical-based wearable devices.

relatively inexpensive, programming process automation into an already-installed ERP often requires additional software, custom development activity, and IT resources, says Jones.

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But for Leonetti, automation, wherever it's sited, ranks fourth on the priority list for realizing back-office process efficiencies, behind elimination, standardization, and centralization.

Even with respect to automation, "RPA is just part of the toolbox, as are ERP enhancements," Leonetti notes.

In fact, Zebra ultimately decided not to automate some processes that it identified as candidates for RPA a year ago.

"Just putting a process through a funnel and looking at the way it was being deployed allowed us to identify simple process improvements that drove benefits without going through automation," says Leonetti.

For the processes that the company did apply robotics to, there were some bumps in the road, he adds. For one, "we were too ambitious. We started with complex processes that included many manual and repetitive actions but that also required creating a lot of decision trees. We weren't ready for that."

Second, Zebra took on too much of the RPA management activity, realizing only later that its finance organization couldn't handle it. So Leonetti hired a third party, Tata Consultancy Services, to program and manage the company's bots. | **D.M.**

tivity impact, organizations need to focus on hours of work displaced, rather than the number of bots or variety of processes automated.

A caveat there is that while today's bots can be programmed to execute multiple processes, a single bot can handle only one task at a time. That requires careful scheduling of the bot's time to ensure that the more important tasks are completed first.

Second, although standardizing processes before automating them is ingrained in finance professionals and works for ERP and other big enterprise technologies, "with RPA you can standardize as you automate," Robinson says.

Change happens naturally, she adds. Coding the bots involves a logical set of "if-then" steps for replicating very granular actions. While going through the steps, the programmer likely will find some places to improve the logic and skip steps that humans usually take.

Third, with RPA there is no need to automate a process from end to end. Organizations can pick individual steps to automate. "That's very different from the traditional finance mindset, where you're always thinking about end-to-end," says Robinson.

In fact, today's RPA tools aren't actually able to fully automate most end-to-end finance processes—even procure-to-pay, order-to-cash, and record-to-report, says Weston Jones, Ernst & Young's global leader for intelligent automation.

"The tools do a really good job with work packets, but most of the end-to-end processes are too complex," says Jones. "The tools don't fully automate all the handoffs between procurement, finance, and other silos, and you still have to have people involved when there are exceptions."

That's why, although more companies are using RPA and finding new use cases, Jones characterizes its penetration as still very low. "There's a lot

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What to Use Bots For

Ideal Candidates
- **Accessing web enterprise applications**
- **Collecting data from various applications**
- **Copying and pasting**
- **Extracting structured data from documents**
- **Following if/then rules**
- **Opening email and attachments**

Poor Candidates
- **Creating annotations for data variance**
- **Making subjective decisions**
- **Performing exploratory data analysis**
- **Translating handwritten notes to digital text**

Source: Gartner

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of cherry-picking—bits and pieces of processes being automated."

The ability to program bots for a plethora of small tasks and run them on desktop computers poses a risk for companies, especially multinationals, Jones notes.

That's because bots break. Any time an update is made to any software that a bot interacts with, or to a web page that incorporates bot-controlled processes, the bot will typically cease to function until its code is reworked.

"Common things like Adobe Acrobat and Microsoft Word are always updating," Jones notes. A company that deploys hundreds or thousands of bots across operating units worldwide faces a serious change-management issue.

The problem is not insurmountable. A bot that runs on a desktop computer must be individually recoded every time there's a software change. But if

all bots reside on centralized servers, those affected by a particular software update can be recoded all at once.

A Mere Stepping Stone?
What will RPA look like in a few years? The major vendors are working to enhance their bot-building platforms with the pattern-recognition capabilities that drive machine learning. That would allow bots to get smarter over time, rather than just following their programming.

RPA occupies a lower position on a spectrum of what's generally called intelligent automation. Machine learning is a step up from there, and full-blown artificial intelligence is beyond that.

For all the hype over AI, surprisingly few companies are doing anything with AI-enabled technologies except conducting small pilot tests. But some think it won't be a matter of years but mere months before RPA begins linking up with the more advanced capabilities in ways that will be meaningful to a large swath of companies.

"We think that the lines between RPA, machine learning, and AI are going to start to blur within just 12 to 18 months," says McKinsey's Smith.

According to Gartner, while 56% of companies are evaluating AI for accounting and finance automation, only 5% of them are in the implementation phase. But by 2020, 31% of companies are expected to be in the implementation phase and 26% in "operating" mode.

For vendors, those trends could lead to either a war for survival or a softer merging of robotics and AI players, marked by a significant phase of consolidation.

"The big technology players are starting to place bets and have relationships with the automation and AI players," Smith observes. "You could see them using their influence and R&D investment dollars to shape what the new solutions are going to be." CFO