Insight

The Bottom Line on Bots

The bots aren't coming for accounting and finance professionals, they're already here.

By JEFF STIMPSON | Summer 2018

Any accountant or auditor who has ever asked Amazon's Alexa about the weather or Apple's Siri for restaurant recommendations (and received a remarkably good answer) probably has an understandable and reasonable reaction regarding the acceleration of artificial intelligence (AI) into the accounting and finance profession: fear.

But AI and robotic process automation (RPA) are two terms, two technologies, that today's accounting and finance professionals must come to know, scratch that, come to embrace — not out of fear for one's future professional relevance, but for the fact that these technologies promise to turn endless workdays for human accountants and auditors into mere minutes of automated work.

While fear-mongering headlines and keynotes proclaim that streamlining hours of human labor might soon remove need for, well, the human, the companies and firms already using these technologies to "improve client service" might argue otherwise.

Imagine having the freedom from all those administrative tasks — like onboarding new recruits, copywriting and confirming contract terms, or sifting through spreadsheet after spreadsheet and financial statement after financial statement to audit or analyze a company's books — to apply your smarts, savvy, and plain old human creativity to help your clients, colleagues, or customers think outside the box. Well, you can have all this and more — all you must do is trust the machines.

The bots are coming; there's no stopping them. Hell, they're already here.

Consider how calculators and computers didn't destroy accounting jobs. Excel didn't unseat the tax preparer or corporate finance pro. There's a software or cloud solution for every business and finance need today, and yet the accounting and finance profession hasn't evaporated (though some administrative jobs have). So, what exactly is the AI and RPA threat? Modern science fiction would lead us to believe that human-like robots will infiltrate our offices, slowly learning and mimicking our ways until one day they turn on us in an "Ex Machina" or "Westworld" type of event. We're not there — at least not yet.

"To describe these technologies, you have to start with describing what they are not," says Peter Scavuzzo, CIO of Marcum LLP, a N.Y.-based independent public accounting and advisory firm with offices in Chicago and Deerfield, Ill. "A bot is not something built or a deliverable in itself [like a physical robot]. A bot is a digital worker [an application or algorithm] that performs tasks — ideally repeatable and procedural tasks."

In other words, bots are behind RPA and the growing use of data analytics and digital and workflow automation tools. Natural language processing (NLP), for instance, can read and analyze text or speech to mine

AI, aka cognitive automation or cognitive technology, consists of algorithms that enable software to absorb information then reason and think similarly to humans, giving human users an intelligent tool to directly interact with. Amazon's Alexa, Apple's Siri, IBM's Watson, and Microsoft's Cortana are some of the most known AI examples. Proponents claim AI in the accounting and finance space will further advance what automation has more or less always done: reduce errors, increase production speed, and elevate workers to more creative (and profitable) tasks.

"AI is specifically designed to simulate human thought process and/or intelligence, but its advantage is that AI can process a large amount of data more rapidly than humans and can deliver results more accurately," adds Greg Fernandez, a manager in RSM US LLP's Indianapolis office.

Just some accounting and finance areas suited to AI and RPA include accounts payable, audit, cost and data analysis, staff onboarding, lease accounting, and tax analysis and preparation — the possibilities are quickly becoming endless, however, as these technologies can strike through thousands of contracts, financial statements, or other documents like lightning.

Real-World AI

In the tax preparation world, NLP is helping practitioners with its ability to produce narrative reports from reams of the most complex tax codes and returns, and RPA is helping to thwart errors and improve compliance with features like automated timestamping and documentation, but AI's abilities are stretching even further.

H&R Block made headlines when it announced a partnership with IBM to use their AI supercomputing technology, Watson, to help their tax professionals and clients better understand and navigate the tax filing process. Watson can parse and interpret tax code changes in milliseconds, "learn" the new guidance and regulations, and then communicate the best options for filing, credits, deductions, and more to the client or tax preparer. The more Watson is used in this setting, the more Watson learns from H&R Block tax professionals about navigating the tax code and finding and correcting errors and more.

Watson's reach into the accounting and finance world continues at KPMG. Having successfully fine-tuned and deployed Watson in its audit practice to analyze volumes of company financial data for anomalies, KPMG has developed two new cognitive solutions under its partnership with IBM: The KPMG Contract Abstraction Tool, which automates extraction of lease contract data in lease accounting by identifying trends, patterns and relationships within the data, and KPMG Research Tax Credit Services, which helps clients examine and sort research documents to provide evidence of eligibility for research tax credit subsidies and provide higher-quality documentation to retain the credit in case of an audit.

On the human capital side of the business, accounting and advisory firm Baker Tilly is experimenting with an AI-powered approach to engagement staffing using Microsoft Azure. The cognitive solution, which learns and evolves with use, sorts data points of more than 250 staffers to propose engagement teams based on factors like the engagement type, expected length, location, desired profit margin, staff credentials, and more, explains

Waqqas Mahmood, Baker Tilly's director of advanced technology and innovation in Washington, D.C.

In fine-tuning the firm's approach to staffing, Mahmood says, "We're learning, and so is the machine. The machine picked up on trends." For example, if in the first use a partner picked a Chicago staffer for a Chicago engagement, in the next use the AI solution picked only staffers from Chicago. Or, if it was a tax engagement, the AI solution would only propose tax people. As the fine-tuning continues and use increases, Mahmood says this "machine" will ultimately help cut down the time partners and senior managers spend manually creating staffing structures and proposing engagement teams.

EY is another firm finding creative uses for AI and RPA in managing its human capital — it has a bot for onboarding, confirms Mark Takacs, CISA, an executive director in EY's assurance practice and an intelligence automation leader in the firm's Central region. The bot schedules interviews, new employee orientations, trainings, and hardware assignments, and double-checks that employees' forms are correct, among other HR functions. EY is also developing custom bots for its audit practice and for clients.

Manning the Machine

"There's always a level of intimidation with change," Takacs says. "I often compare this with ad hoc reporting and data warehousing. I think there was hesitation to effectively use this technology within various business functions, but if you look at the landscape today, I'd say it's something accounting professionals can't live without."

In time, AI, RPA, and the next generation of disruptive technologies will also be things we can't live without. For the skeptics, the solution is to start small. In a recent Sage survey of accountants, 38 percent cited time spent number-crunching as one of their biggest business frustrations, with 32 percent still using manual methods with Excel or handwritten notes and records. Almost all claimed they'd be "happy for technology to make the admin elements of their job invisible, so they can focus more on their clients and building their practice."

"Let the complex and repetitive tasks be completed faster and more accurately, allowing you to focus on reviews and other activities requiring something AI does not have: common sense," Fernandez says.

In other words, embrace the bots, Scavuzzo urges. "As humans provide AI systems training, the confidence level in the guidance from the AI system should grow," he says. "Bots are targeting the lowerend repetitive tasks that humans now perform, and AI is targeting the massive amounts of data available but inconsumable to humans to better aid in making the best decisions. It's aiding and enhancing human judgment, not replacing it."

What's more, consumers are increasingly becoming more accepting of AI, bots, and what many in financial services are calling roboadvisors. "About half our clients are piloting [bot] technology, and maybe 10 to 20 percent are in full production with more bots on the way," says Takacs, who presented on EY's internal and external bot uses at the Illinois CPA Society's November board of directors meeting.

Further, a recent Accenture survey found two-thirds of taxpayers across 12 countries said that, if offered, they would use a digital tax assistant [AI] that could address questions with conversational language and "could, over time, become more intelligent and personal about each taxpayer's personal and professional tax situation."

Within the audit profession, which is built on trust, Daragh Watson, KPMG US audit partner in Chicago, says

using these technologies is about "assisting investors and others in making investment decisions by providing quality financial information that has been subjected to industry-approved auditing standards. With the explosion of data, the ability to distinguish between which information can and can't be trusted is more valuable than ever."

The bottom line is that the accounting and finance profession has no choice but to open its arms to AI, RPA, and the likes. "It will not be a simple shift at all," Scavuzzo says, "yet our industry absolutely needs to expand its consulting offering. This will open up an array of opportunities for accountants."

Armed for AI

In "Tax Analysis: Artificial Intelligence and Machine Learning," PwC claims AI may soon provide full-fledged digital assistants to replace basic capabilities of first and second-year tax associates.

"Entry-level work traditionally performed by recent graduates will be displaced," Scavuzzo admits. "Ten years ago, when someone was hired, they were expected to start at the bottom and perform tedious tasks to earn their stripes." Not anymore.

The coming years will see traditional accounting tasks and skills fading from the focus of hiring. Firms will find themselves needing to partner with, and recruit from, universities that provide a blend of accounting and technical skills. Hiring trends are already reflecting the shifts in firm needs; a growing number of associates from alternative programs, such as application development, computer sciences, data analytics, and engineering, among others, are being brought on.

KPMG, for instance, has developed the KPMG Master of Accounting with Data and Analytics Program with universities to accelerate the development of talent it will need in the future.

"Of course, a foundation in data analytics and algorithms will be of great value to all accounting and finance professionals, but I believe there's also a great need for a blend of skills around the next-generation thinker," Scavuzzo says. "This includes skills in critical thinking, complex problem solving, innovation, creativity, cognitive flexibility, and a willingness to accept change."

"The new generation of accounting and finance professionals is working in engaging and collaborative environments. The use of AI technologies enables teams to focus on building client relationships and creating high-value deliverables in a shorter time. This results in more client work, which ultimately requires more humans," Mahmood says. "I see this increasing hiring."

So, maybe the bots aren't so bad after all.