



HOW TO FUTURE-PROOF YOUR CAREER

AS ARTIFICIAL INTELLIGENCE AND ROBOTICS EVOLVE, THE TASKS THEY CAN COMPLETE GROW IN SCALE. **RICHARD WATSON** EXPLAINS HOW HUMAN QUALITIES WILL KEEP THIS TECHNOLOGY FROM TAKING OVER PROFESSIONAL LIFE

Are you worried that your job could be eaten by a robot or consumed by a computer? If so, then read on...

A recent Pew Research Center study found that two-thirds of Americans believe that in 50 years' time, robots and computers will 'probably' or 'definitely' be performing most of the work currently done by humans. However, 80% also believed that their own profession will 'probably' or 'definitely' be safe.

Putting to one side the obvious inconsistency, how might we ensure that our jobs, and those of our children, are safe in the future? Are there any particular professions, skills or behaviours that will ensure that we are gainfully employed until we decide that we no longer want to be? Indeed, is there anything we do that artificial intelligence (AI) can't, no matter how clever we get at designing such technologies?

To answer all of these questions, we should first delve into what it is that robots, AI, automated systems and computers generally do today and

then speculate in an informed manner about what they might be capable of in distant tomorrows.

A robot is often defined as an artificial or automated agent that's programmed to complete a series of rule-based tasks. Originally, robots were used for dangerous or unskilled jobs, but they are increasingly being used to replace people when people are absent, unskilled or in short supply. This is broadly true with all automated systems. They, too, are programmed to acquire data, make decisions or solve problems based upon rule-based logic. Not surprisingly, machines such as these are tailor-made for repetitive tasks, such as industrial manufacturing or for beating humans at rule-based games, such as chess or Go. They can be taught to drive cars, which is another rule-based activity, although self-driving cars do run into one problem, which is humans not consistently following the same logical rules.

Reflecting on the impact of all this on the treasury profession specifically,

many tasks are already largely automated and influenced by AI: electronic trading (especially in FX, commodities and equities), payments and settlements, book-keeping and accounting, and risk monitoring among them.

If we look at key functions and the structure of a typical treasury department, the areas most likely to see an impact are elements of the front, middle and back office, plus the accounting function. Very little of the back office role is unaffected by automation, for instance. What is unlikely to be replaced, however, is the role of the back office team itself, which is effectively a level of control within the payment and settlement process. The back office of 20 years from now may run to just one or two people, supervising systems and controls, and intervening when things go wrong.

RULE-BASED TASKS

The key phrase in all this is 'rule-based'. Robots, computers and automated

systems have to be programmed by humans with certain endpoints or outcomes in mind. At least that's been true historically. Machine learning now means that machines can be left to invent their own rules based on observed pattern recognition. In other words, machines can now learn from experience. In the future, it's even possible that robots, AIs and other technologies will be released into 'the wild' and begin to learn for themselves through human interaction and direct experience of their environment, much in the same way that our children learn.

Having said this, at the moment it's tricky for a robot to make you a cup of tea, let alone bring it upstairs and persuade you to drink it. Specialist or niche robots are one thing, but a universally useful or general robot is something that's still firmly stuck in science fiction.

That's the good news. No robot is about to eat your job, especially if it's a skilled or professional job, any time soon. Much the same can be said of AI. Despite what you might read in the newspapers (still largely written by humans despite the appearance of story-writing robots), many jobs are highly nuanced and intuitive. Many, if not most, also involve dealing with people on some level.

This means that a great many jobs are hard to fully automate or digitalise. Any job that can be subtly different each time it's done or requires a certain level of aesthetic appreciation or lateral thought is hard to automate, too.

So, treasury functions that rely on human interaction, adaptability and judgement calls – corporate finance, capital markets and commercial treasury roles among them – are therefore hard to imagine as ready territory for robotic or AI interventions.

For instance, while the preparatory work around representing the financial position of a company prior to raising debt could be automated, the negotiation, pricing and execution relies too much on human persuasiveness.

Similarly, treasury professionals with a remit to provide strategic support to their organisations, offering expert perspectives on FX or commodity risk across the business, for instance, are unlikely to be at risk.

DISINTERMEDIATION

There is some bad news for workforces in general, though. Quite a bit of it, in fact. An enormous number of current jobs, especially low-skilled jobs, require none of these things. If a job is rigidly rule-based or depends upon the application of knowledge based upon fixed conventions, then it's ripe for digital disintermediation. So, by the way, is any job that consists of inputting data into a computer. This probably sounds like low-level data-entry jobs, such as clerks and cashiers, which it is, but looking at the wider world of work, it's also accountants, financial planners, paralegals, pilots, surgeons and aspects of law enforcement.

Whether you should be optimistic or pessimistic about all this really depends upon two things: first, do you like dealing with people? And second, do you believe that people should be in charge?

Of course, this is all a little bit linear. Yes, robots are reliable and relatively inexpensive compared to people, but people can go on strike and governments can intervene to ensure that certain industries or professions are protected. An idle population can cause trouble, too.

Demographic trends suggest that workforces around the world are shrinking, due to declining fertility, so unless the level of workplace automation is quite significant, the biggest problem we could have is finding and retaining enough talented workers, although perhaps this is precisely where the robots come in. Robots won't be replacing anyone directly, but will simply take up the slack where humans are absent or otherwise unobtainable.

Looking at the world more widely, let's assume for a moment that AI and robotics really do disrupt employment and vast numbers of people are thrown out of

work. In this case, which professions are the safest and how might you ensure that it's someone else's job that's eaten by robots before yours?

The science fiction writer Isaac Asimov said that: "The lucky few who can be involved in creative work of any sort will be the true elite of mankind, for they alone will do more than serve a machine." This sounds like poets, painters and musicians, which it is, but it's also scientists, engineers, lawyers, doctors, architects, finance professionals and anyone else that works with fluid problems and seeks original solutions. Equally, anyone working with ideas that they need to sell to other people should be safe. Being personable and persuasive will remain highly sought-after qualities, as will the ability to motivate people using narratives as well as, or instead of, numbers.

In terms of actual professions, that's a much harder question to answer, not least because some of the safest jobs could be new ones thrown up by developments in computing, robotics, digitisation and virtualisation. Nevertheless, it's highly unlikely that humans will stop having interpersonal and social needs, and even more unlikely that the delivery of all these needs will be within the reach of even the most flexible robots. The most desirable outcome, and it's also the most likely in my view, is that we will learn to work alongside our new machines, not against them. We will design machines that find it easy to do the things we find tiresome, hard or repetitive, and they will use us to invent the questions that we want our machines to answer. ♥

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