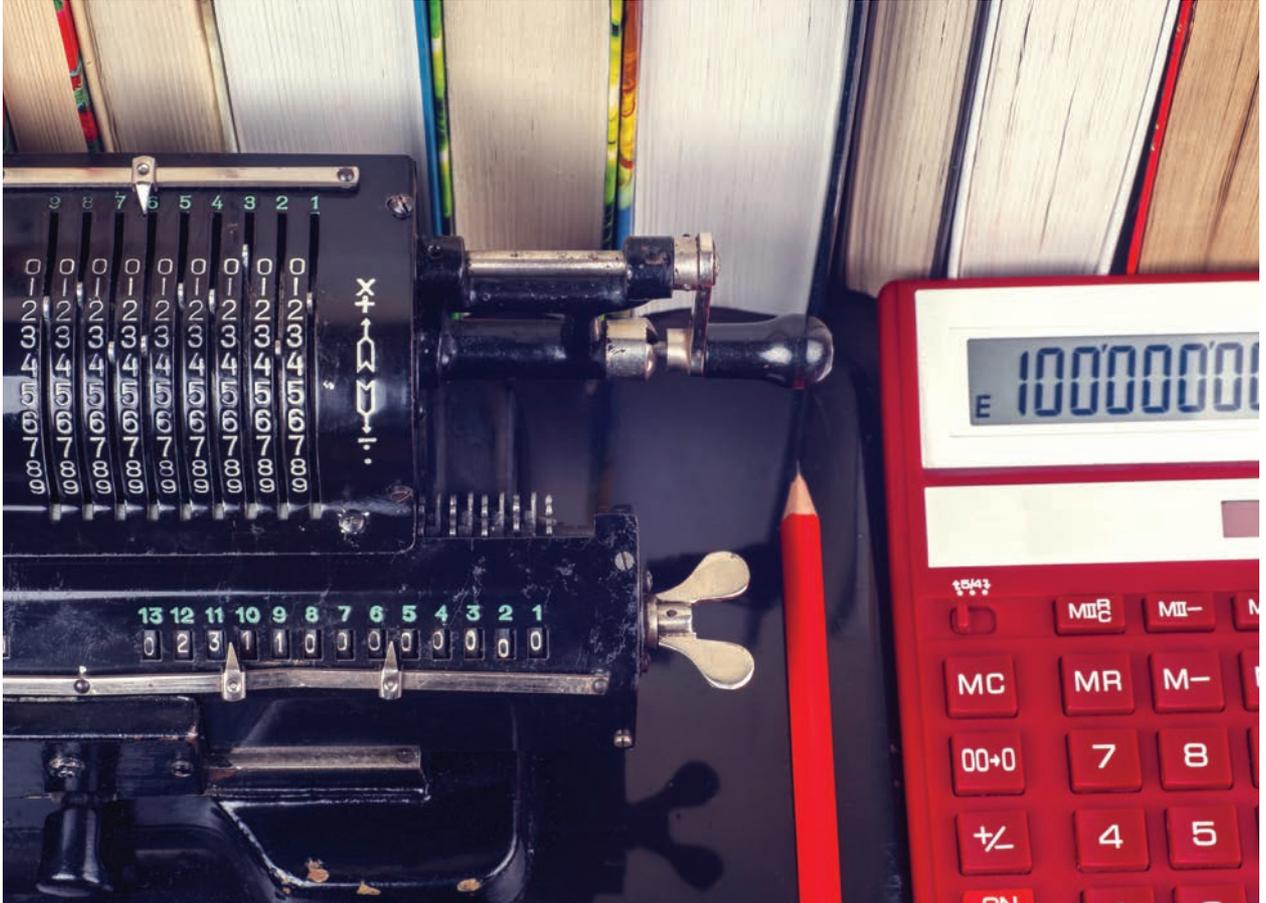


Where Machines Could Replace Accounting Professionals — and Where They Can't (Yet)



*The automation it heralds seems to pose an existential threat to many tasks associated with our profession, a threat that likely will demand the profession to redefine its core offerings. Richard and Daniel Susskind, father and son academics, have researched the impact of technology on the professions. Their work is summarised in their book, *The Future of the Professions*. The genesis of their message for the profession, captured in this article, is that various tasks associated with the profession stand to be automated and that the profession's future rests on inventing useful new tasks. Applying knowledge of expertise on the task at hand and decision making are least susceptible to automation. Read on to know more...*



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Considerable column inches of late in the business media—notably, “*The March of the Machines*” in *The Economist* and “*The Future of Work: Three Ways To Prepare For The Impact Of Intelligent Technologies In Your Workplace*” in *Forbes*—have been devoted to the implications of advances in technology on the workplace and the professions. Advances

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in technology and their impact on work are nothing new. Arguably they've been with us since the beginning of time. The invention of double entry bookkeeping was, in its day, an advance in technology, and look how that came to have a lasting and profound impact on modern business. In our lifetimes, we have seen the calculator, spreadsheets, personal computer, and the Internet—the real game changer.

Before the Internet, globalisation was largely confined to the cross-border exchange of tangible goods. But the Internet has extended this exchange to intangible services, enabling instantaneous cross-border dissemination of knowledge-based services including accounting and consulting work. The current wave of globalisation is—according to Stephen Roach, a senior fellow at Yale University's Jackson Institute of Global Affairs— characterised by the unprecedented speed of technology absorption and disruption. The Internet has also served as the foundation for the most recent wave of technology, that which is blurring the real world with the technological world. This is dubbed as the fourth Industrial Revolution—think Pokémon Go. One of the more pressing questions this revolution raises is—how will the way we work change?

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McKinsey's Report

A recent interim report by McKinsey—summed up in the article, “Where Machines Could Replace Humans and Where They Can't (Yet),” offers further evidence and analysis into how automation stands to affect work, including that of accountants, and how we might respond. In sum, automation presents both threats and opportunities. But harvesting the opportunities will demand significantly redefining our role, moving from compliance services and tasks based on data collection and processing to knowledge work based on data analysis and advising on the data's implications and recommended actions. As Susskind said, the challenge for the profession, all professions, is to reinvent their core tasks and offerings. IFAC and its members have the responsibility of leading this change.

Let's take a closer look at the interim report and the supporting data for each sector including that of professional services. The report is based on a detailed analysis of 2,000-plus work activities for more than 800 occupations. McKinsey quantified both the amount of time spent on these activities across the US economy and the technical feasibility of automating each of them. The report shows that current technologies could automate 45 percent of the activities people are paid to perform and that about 60 percent of all occupations could see 30 percent or more of their constituent activities automated.

Technical Feasibility of Automation

In discussing automation, McKinsey refers to the potential that a given activity could be automated by adopting currently demonstrated technologies that is, whether or not the automation of that activity is technically feasible.

Each whole occupation is made up of multiple types of activities, each with varying degrees of

Special Write-Up

technical feasibility. McKinsey identifies seven top-level groupings of activities—*managing others, applying expertise, stakeholder interactions, unpredictable physical work, data collection, processing data, and predictable physical work*. Occupations in the professional sector, which include accountancy, involve activities such as applying expertise to decision making, collecting or processing data, and interacting with clients. Since all of these constituent activities have a different automation potential, McKinsey arrives at an overall estimate for the sector by examining the time workers spend on each of them during the workweek.

McKinsey concludes that *managing others and applying expertise (to decision making, planning, and creative tasks)* are the least susceptible to automation; *stakeholder interactions and unpredictable physical work* are less susceptible; and *data collection, processing data, and predictable physical work* are highly susceptible. Based on data on time spent in US occupations, those working in the professional sector spend most of their time on *applying expertise, stakeholder interactions, data collection, and processing data*. This represents mixed news for our profession: the former are less susceptible, while the latter are highly susceptible. This suggests that large chunks of time spent by professional accountants on data



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collection and processing risk being automated. But that's not the end of the story.

Accountancy Sector's Susceptibility to Automation based on 5 Factors Determining Automation

While technical feasibility is a necessary precondition for automation, it is by no means a complete predictor that an activity will be automated. Whether or not automation will in fact become a reality is determined by five factors. Below we've assessed the risk of automation for the accountancy profession's core activities in the context of the five factors identified by McKinsey.

1. **Technical feasibility**—As noted above, some activities performed by accountants are less susceptible, while others are highly susceptible, to automation. We look forward with bated breath to see what the final McKinsey report has to say on this.
2. **Cost of developing and deploying the hardware and software for automation**—it would seem the costs, such as that of data analytics and cloud computing, have fallen sharply in the past few years. This low to modest cost points to increased risk of automation.
3. **Cost of labour and related supply-and-demand dynamics**—many jurisdictions are reporting a talent war with qualified staff in short supply. This seems to have triggered significant increases in the salaries of professional accountants. This high cost of labour and shortage of talent points to increased risk of automation.
4. **Benefits beyond labour substitution**—it's easy to see that automation might lead to higher levels of output, better quality, and fewer errors especially in data collection and processing. In the case of audit, one can see how technology enables the testing, quickly and accurately, of entire data populations rather than just samples. These substantial benefits of automation contribute towards a high chance of automation.
5. **Regulatory and social-acceptance issues**—it seems likely that employers or clients will be accepting a robot or machine replacing some of the functions of an accountant, but perhaps less accepting where the situation demands the exercise of professional judgment or skepticism,

such as an ethical dilemma. Regulators might also prefer to see human intervention than reliance on a machine. The net impact of these issues might be neutral as far as their impact on whether automation is likely.

Implications for the Profession

The upshot of this analysis is that it seems that not only does a large proportion of the core work of a typical accountant have the potential for automation but that other factors may work to realise this potential. If that's the case, then it's vital that the profession accelerates its move into tasks and activities less susceptible to automation. The top candidate is advisory—to clients or for employers. This has to do with *managing others, applying expertise and stakeholder interactions* that are much less susceptible to automation than *data collection* and *processing*. The crucial ingredients to advisory, that for now at least seem impervious to automation, are that of establishing trust and providing personalised expertise.

Many accountancy practices have already made a big push into this service area. As the *International Accounting Bulletin's World Survey* revealed many larger accountancy firms now draw the lion's share of their revenue from this type of work. According to IFAC's Global SMP Survey, this trend away from audit in favour of advisory, including that around cyber security and data analytics that did not exist a decade ago, is gathering pace amongst medium-sized international accountancy networks and small- and medium-sized practices (SMPs). IFAC has challenged SMPs to carefully consider diversification. Diversification, and the resulting recruitment of non-accountants, means accounting firms are less *firms of* professional accountants and more *firms* led by professional accountants. A recent IFAC Knowledge Gateway article sets out some guidance on how SMPs can go about diversifying. Similarly IFAC's thought leadership on the role of

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Technology is a crucial tool in making the transition. Olivia Kirtley, IFAC President recently discussed how technology can be a strategic opportunity to strengthen the accountancy profession. In a similar vein ICAEW's CEO concludes that "the future of the profession is an exciting one, but only if we embrace new technologies and focus on the value that we can offer to businesses and our clients as a result."

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Finally, we might need to take a leaf out of the book of the profession that, according to McKinsey, looks least likely to be automated—teaching. The more professional accountants assume the role of educator or coach of their clients and employers, on things like the relevance and import of quality financial management and other information, then they will find their role, for the foreseeable future at least, more resistant to automation.

Please Share Your Thoughts

We at the IFAC are keen to hear from you as to whether you agree with the above assessment and what actions the global accountancy profession, professional accountancy organisations, and professional accountants need to take to ensure we don't find a robot sitting at our desk one Monday morning.

(Source: IFAC Global Knowledge Gateway). ■