

Special Write-Ups

Exploring Artificial Intelligence & the Accountancy Profession: Opportunity, Threat, Both, Neither?



Artificial intelligence (AI)—the capacity of machines or software to create and exhibit intelligence—bring with it both promise and concern. AI tools and applications are being developed to think, feel, and react like living creatures. A survey of recent literature suggests that there is a practical connection emerging between science and finance, more specifically, accountancy. How can accountants navigate their way in this emerging world of still developing, and possibly little-understood, technologies? Read on to know more...



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Artificial Intelligence (AI) could become an invaluable partner in professions that demand considerable training, technical precision, and ethical judgments—including accountancy. According to a reliable report, AI could bring about entirely new classes of products and services, create new markets, and generate large gains for inventors.

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Application areas include customer service, research and development, logistics, sales, and marketing. The market for AI-based tools and applications is growing rapidly and, according to a report from the European Commission, the global market for AI is set to grow from €700 million in 2013 to €27 billion by the end of 2015.

As noted by CEO and Chairman, Institute for Global Futures Dr. James Canton, accountants in the near future will likely need to possess a set of aptitudes and skills that could be markedly different from today's professionals. With that in mind, does AI pose a threat to the future of the accountancy profession? Or a promise?

AI: Learning, Evolving, Taking on Increasing Tasks

Accountants' responsibilities often involve following long-established methodologies for information analysis and professional standards for report preparation. Specialised software already automates many accounting, tax, and audit data-gathering and processing tasks and provides the results to professionals who use their professional judgment to review. AI has the potential to completely transform the accountancy profession. According to a report from the Association of Chartered Certified Accountants, over the next two years, automation will alleviate many cumbersome processes, such as bookkeeping and transaction coding, enabling accountants to focus on advisory services and other higher-value work. As a result, the future will offer smart applications that drive value for accountants and their clients. *The Economist* also recently indicated that there is a 94% likelihood that AI will lead to job losses in the accountancy profession over the next two decades.

Artificial Governance?

In the near future, intelligent machines may not only monitor compliance with regulations and organisational policies but could also evaluate employee performance or even control hiring and firing. One common perception is that AI may cause an invasion of privacy by monitoring human behaviour and managing information about our lives. According to *The Economist*, "machine learning" is a way of programming computers to understand things by producing for themselves the rules their programmers cannot specify. If machines someday assume a greater role in assessing situations on its

own, where do we strike a balance between the gray area of human empathy and the black and white, yes or no, lines computers would draw?

Machines as Fiduciaries?

Some professionals, both financial and legal, bear considerable fiduciary responsibilities. We trust them to make sound decisions but as they are not only professional but also human, misinterpretations and biases can occur. Could AI someday evolve to be more effective fiduciaries than their breathing counterparts? Would they be less prone to undue influences or poor decision making? In the case of public trust funds (e.g., for parks, educational institutions, and medical research), it is conceivable that AI could provide continuity over decades or even centuries to adhere to the original mandate.

Robotised Management

There is a common assumption that AI could result in greater productivity and the optimal management of resources. Already, accountants rely on different types of software, such as for customer relationship management and business process management



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systems, to inform their decision making and planning, and more is possible. A leading consulting firm recently shared best practices on how to evaluate what artificial intelligence can do for your business, including how cognitive technologies can help generate insights that can reduce costs.

Super-intelligent Investors

According to *The Economist*, “automated wealth managers” can offer sound financial advice for a small fraction of the price of a real-life advisers. AI is also on the radar of the global investment community. According to Bloomberg, Bridgewater Associates, one of the world’s largest hedge fund managers, has started a new artificial-intelligence system. The system will reportedly create trading algorithms that make predictions based on historical data and statistical probabilities. While Bridgewater’s AI system sounds like a promising competitive advantage for individual investors, it could present a detriment to markets in general. If all investors eventually have powerful AI systems, how will this impact capital flows and other macroeconomic realities? Decisions made quickly could ultimately offset entire markets.

Beware the “Runaway Effect”

As AI systems evolve, it is conceivable that—at some point—they could provide autonomous knowledge. However, algorithms designed to achieve optimal efficiencies could inadvertently result in negative or unforeseen consequences. This “runaway effect,” which occurs when the very things we seek to fix or solve cause greater harm than good, is a hazard that should be considered. If we design systems to maximise productivity, we should be aware that negative side effects can arise in their wake. We may

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From Threat to Opportunity

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(This article originally appeared on the IFAC Global Knowledge Gateway: www.ifac.org/Gateway. Visit the Gateway to find additional content on a variety of topics related to the accountancy profession.)