

# Artificial Intelligence opens the door to the creative CFO

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We believe white-collar work is about to get much more interesting thanks to cognitive technologies. The finance function of 2020 is likely to need a huge injection of creativity as even high-skilled analytical jobs are replaced by smart algorithms, learning machines and artificial intelligence.

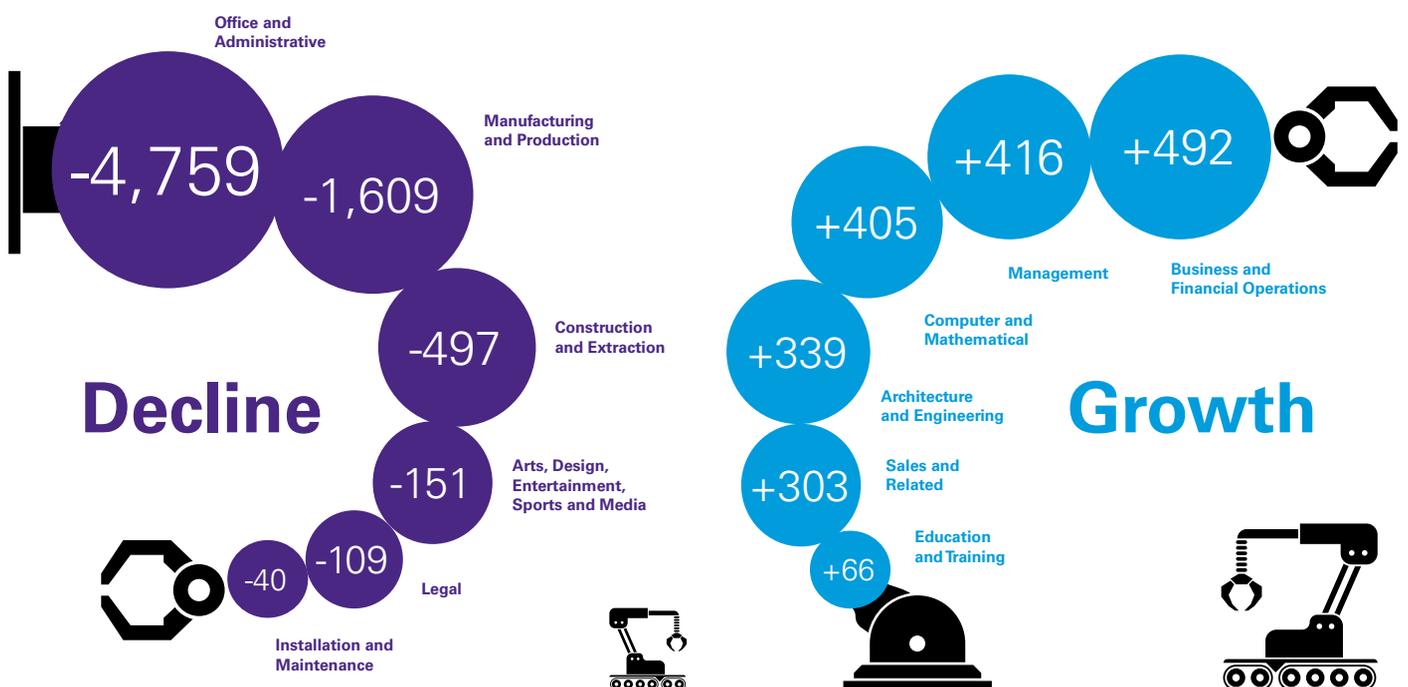
**The rise of robots, artificial intelligence (AI)** and other cognitive technologies over the next five years is likely to create new opportunities for delivering high-value, creative work in back-office functions. Although a World Economic Forum (WEF) [report](#) estimates that 5.1 million jobs will disappear in 15 leading countries by the end of 2020, the [“Fourth Industrial Revolution”](#) will see a big demand for creative skills and a decline in office admin.

“Businesses need to undergo a cultural transformation,” says Jayne Vaughan, Head of Culture at KPMG in the UK. “People need to embrace working with robots rather than people.”

Many people in white-collar jobs or in service industries have felt relatively insulated from the loss of work to robots. The new report challenges that complacency.

## Employment outlook across job families

Jobs change in thousands, 2015-2020



The WEF's estimate of the jobs that will be lost and created in different disciplines within 15 leading economies thanks to new technologies over the period 2015 to 2020. Source: *Future of Jobs Report, WEF 2016*

Many sectors and job types are now in the sights of new technologies, both basic and cognitive. For many corporate back-office functions, says the WEF, that means a focus on complex problem-solving, critical thinking and creativity.

## Freedom from finance admin

KPMG's been working out how new technologies will change a critical business function: finance. The evolution of the CFO's domain using these tools is already obvious. Today's analytics packages, for example, mean that business analysts often do the legwork of trawling through spreadsheets looking for key data to inform decisions.

But we can expect AI to push those analysts into more complex and judgement-led analysis. And that's not the only "human" area in finance that's facing a radical shake-up. To understand how this will play out, we assigned the typical skills and capabilities in finance functions into two categories.

Tier One jobs, such as Collection Clerk or Accounts Payable teams, are mostly driven by process, transaction and systems. These areas have already been changing thanks to new business processes, technology and globalisation – and will be further automated. Much of the analysis currently carried out by relatively senior and skilled finance function experts at this level will be generated by basic automation.

Tier Two contains the skills and capabilities needed to deliver original thinking. "This tier is about generating insights for the front-office – and decision-makers – to drive business strategy and growth," says Nicholas McDonald, management consultant at KPMG. "CFOs designing their function for 2020 may question how far robotics can go. Some may need to get comfortable with Tier One being fully automated and then determine how cognitive can get to the core of those activities which require additional human intelligence and judgement."

## Designing a plan for 2018 to 2020

Organisations in every sector have a window of opportunity to be proactive and look at basic cognitive technologies. [According to the WEF](#), commercial AI will start to kick in from 2018. That means as this revolution plays out, firms have time to consider what kinds of employees and skills they want, and in which roles. It's certainly enough time for CFOs to evaluate the potential impact of cognitive technology: to start considering new structures and workflows and to ask themselves how this will impact their future workforce.

KPMG predicts it can take a typical finance function 12 to 18 months to go from decision to full implementation of commercial AI systems.



The scale of this technological change is as big as the first outsourcing of transactional processes in the early 1990s. At that time, few believed that this would become the norm. Nor did they think it would bring such significant savings to early adopters. But now it's rare to find a finance function that does not have a large portion of its transactional processes that is either offshore or outsourced.

## Upskilling for the AI age

This isn't just about finance function capabilities and the growing sophistication of algorithms and machine learning. The human dimension is critical. How should CFOs handle radical shifts in skills and structures? How should they treat people who are currently adding value, when their roles are increasingly automated?

Not all roles, even in Tier One, will disappear entirely. "The finance function will definitely be smaller in number of people than it is now," says Jameel Khokhar, Banking Partner at KPMG. "But the people who remain will have a higher quality skill set. Rather than reconciliation work, they will be doing analysis and insight work."

It's also going to mean recruiting (and retraining) finance function people with a broader range of soft skills – communication, strategic business partnering and commercial awareness. Additional technical skills will also be on the 2020 list. Even the smartest cognitive systems require expert oversight.

[The WEF's ranking](#) of the top 10 skills needed in the workforce of 2020 is a useful checklist. "Co-ordinating with others" and "negotiation" are both big fallers compared to 2015; "creativity" is the big riser. Dropping off the list entirely by 2020? "Active listening" – where the researchers expect smarter data collection and analytics of unstructured data to yield insights that humans currently generate. "Quality control" – where cognitive technology is expected to get better at spotting errors and exceptions in a range of areas currently entrusted to human supervisors – also fails to make the list. This raises interesting questions about the skills and roles of finance business partners, for example.



## Practical steps

KPMG's experiences with clients on the future capabilities of finance functions came up with similar findings. The spread of artificial intelligence is rapidly increasing the focus on value from skills such as "developing commercial insight from financial analysis" and "using financial expertise to influence the business". It is cognitive technologies that are likely to create future value from excellence in transactions or expert analysis – not humans.

Confidence in cognitive tech will continue to accelerate after 2020. By 2025, KPMG expects that only human (some might say "emotional") roles such as "coaching" and "managing projects" will have escaped full automation.

That's going to mean building a pipeline of talent with the necessary financial knowledge and skills – but who can augment them in one of two areas. Either understanding the way cognitive technologies work and manipulating those tools; or having the creative, communication and people skills to ensure the impact of the new finance automation is properly acted upon.

It will be the CFOs who act now and embrace this change – even before seeing cognitive's full potential – who are likely to gain most. Those who wait may face mounting costs in upskilling their workforce as they try to close the talent gap. "Agility is key," says Vaughan. "First movers will get the pick of the crop."



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CFOs should consider their next steps, including:

1. Define current roles and finance function capabilities, then map this to new techniques.
2. Assess whether each role can be automated, semi-automated, or whether human skills need to be retained.
3. Start working with IT, HR and the business to design a roadmap for that new model. Invest in capabilities that will be critical for the future, now.

- **On your reading list:** [Implications of the cloud on the finance function](#), KPMG Powered Finance initiative.
- **On your board agenda:** As we evaluate cognitive technology in business-critical functions, how can we ensure we have adequate oversight of the complex "black box" systems we are using to make decisions?
- **Anticipate tomorrow...:** The rise of AI for functions like finance will shake up our assumptions about recruitment, skills and career development. Is the HR function ready to support this shift?
- **...deliver today:** Smart use of cloud technology is a critical stepping stone as cognitive tech develops. Invest now in putting finance in the cloud and nurturing creative individuals within the team.