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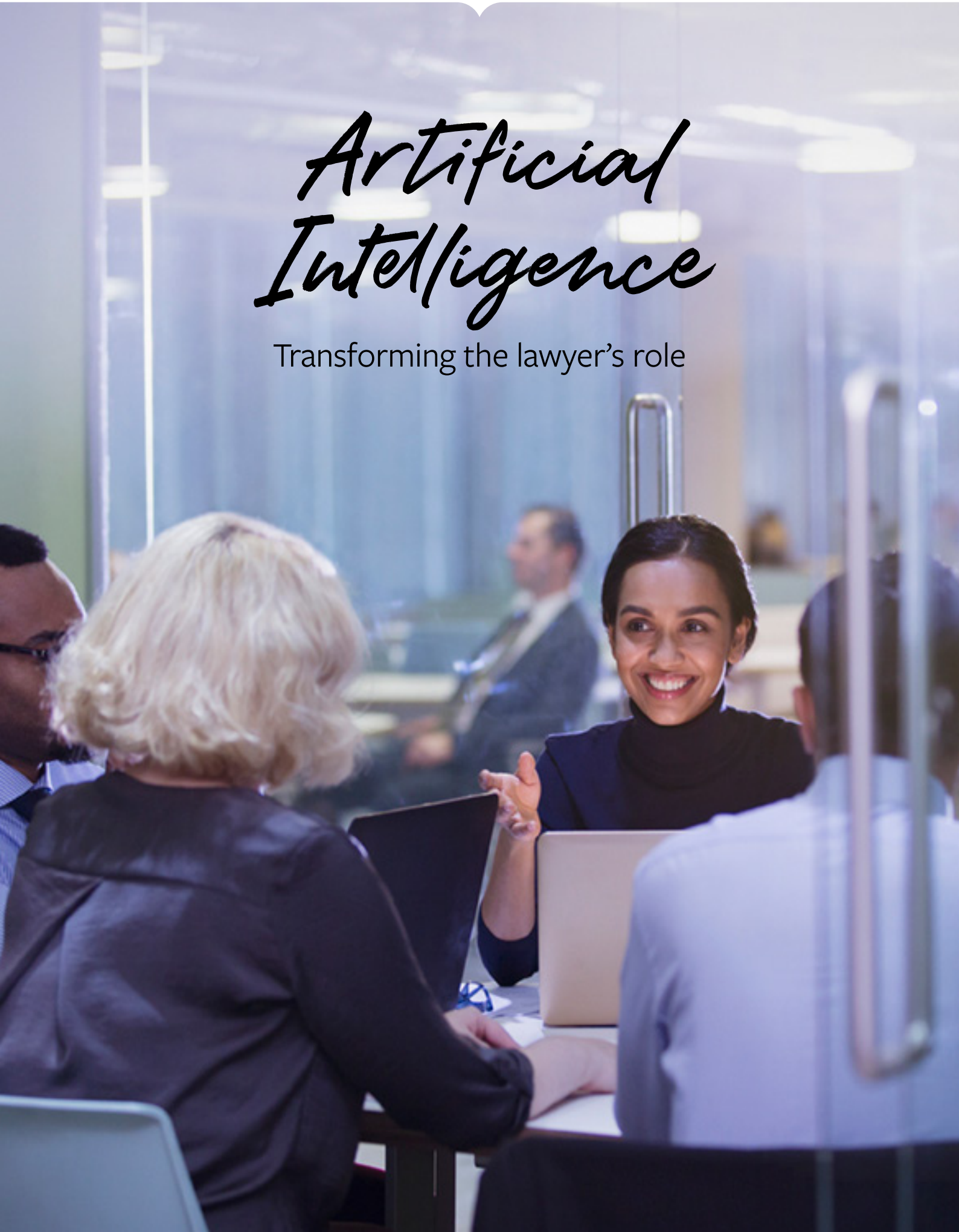

Artificial Intelligence

Transforming the lawyer's role

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Hold on tight: In the next two decades, the legal sector will change more than it has in the past two centuries.

That was the forecast professor and legal advisor Richard Susskind made in his 2012 book *Tomorrow's Lawyers*. Based on shifts in the legal landscape since the publishing of that book — from the changing patterns in how employees work to the maturing of systems that can help firms analyse data — the profession is well on its way to delivering the kind of change Susskind predicted.

He identified three forces driving the change we see in the sector.

First, legal clients nowadays want more for less: the global financial crisis of 2008 shifted the economic balance of power between lawyers and clients, creating a buyer's market.

Second, liberalisation is driving an entrepreneurial spirit through the profession and generating greater flexibility around how legal services are provided and who provides them.

Finally, technology is forcing lawyers to radically rethink their working practices.[1] This last driver, technology, has special influence because it enables the first two drivers and is woven through them.

Technology is altering the legal landscape by setting the foundation for agile work, process automation, and the forging of cross-disciplinary partnerships designed to encourage innovation. It is broadening access to legal advice and making the consumer feel empowered to take legal action more easily. It is changing lawyers' responsibilities within firms and challenging firms to reassess their fee structures.

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[1] Gray, Alastair. "Law firms face three 'drivers of change' – Susskind." Shoosmiths LLP, 6 September 2012, www.shoosmiths.co.uk/news/press-releases/law-firms-face-three-drivers-of-change-susskind-3028.aspx

Artificial intelligence v. humans

Within technology, the development of artificial intelligence is showing it has the power to supercharge change across industries.

According to a recent PwC study, the UK's GDP will be 10.3 percent higher in 2030 as a result of artificial intelligence specifically — the equivalent of an additional £232 billion. That makes it one of the biggest commercial opportunities in the economy today.[2]

Artificial intelligence (AI), simply stated, is the study of training computers to develop traits that allow them to complete tasks which, before now, humans have been able to do better.

Machine learning is an application of AI in which a computer learns to think, learn and build knowledge on its own without being programmed. Anyone who doubts the potential of AI should watch the 2017 documentary AlphaGo. AlphaGo is a computer programme that can play the boardgame Go. A team from DeepMind Technologies, a Google subsidiary, developed AlphaGo and subsequent versions of the programme. They created a version that was able to teach itself the game, win a tournament against Go world champion Lee Sedoi and reach the level of AlphaGo Master in 21 days.[3]

What sets the AlphaGo programme apart — and demonstrates the potential influence of machine learning in other settings — is that rather than programming the machine with every possible outcome of each move, the DeepMind team helped "the computer to develop its own intuition about how to play — to discover for itself the rules that human players understand but cannot explain. It does that using a technique called deep learning, which lets computers work out, by repeatedly applying complicated statistics, how to extract general rules from masses of noisy data."[4]

Similarly in the legal profession, machine learning algorithms can analyse large amounts of structured or unstructured data within client files, identify patterns and then continuously generate insights that it can apply in the future.

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[2] "The economic impact of artificial intelligence on the UK economy." PwC, June 2017, www.pwc.co.uk/services/economics-policy/insights/the-impact-of-artificial-intelligence-on-the-uk-economy.html

[3] Silver, David, et al. "Mastering the game of Go without human knowledge." Nature, International Journal of Science, 19 October 2017, www.nature.com/articles/nature24270

The larger the amount of data the algorithm can analyse, the more accurate the results it delivers. This is making it possible to automate tasks once completed by humans, impacting how work is done in a firm and who (or perhaps what) is responsible for completing it.

As a report from the Law Society states, "Many law firms have had document automation for a long time, but these tools have advanced considerably in the last few years. Using automation, logic and decision trees to create document templates that pull out all of the relevant search terms upfront, non-lawyers and businesses are able to produce initial draft documents and contracts that used to fall to legal teams."[5]

Balancing the benefits

That use of technology to tackle work once handled by humans is making some in the legal profession too hesitant to embrace it. Joseph Jones, Director of Risk Management for Travelers in the US, says technology's potential to replace staff and create downward pressure on fees has led to resistance to both the technology itself and to the idea that the role of a lawyer must evolve with it. "The legal industry here hasn't quite gotten to the point where lawyers are seeing themselves as consultants and advocates who can simply rely on technology for data," he said. "AI is a powerful tool and we still need human evaluation of that tool."

In the UK, there may be a greater appetite for AI because regulations designed to promote competition have helped set the stage for it. One doesn't have to be a lawyer to own and operate a legal services business. The liberalisation of the legal services industry has made it possible for an entrepreneur armed with a powerful IT application to do it.

"When you liberalise the legal space, you allow room for new ideas," said Paul Smith, Senior Risk Management Consultant at Travelers Europe. "It may mean we see the confluence of money and computing power driving change. Then you will have no choice but to accept it. If you cannot swim, you sink."

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Senior Risk Managment Consultant,
Travelers Europee

[4] "Showdown: Win or lose, a computer program's contest against a professional Go player is another milestone in AI." The Economist, 12 March 2016, www.economist.com/science-and-technology/2016/03/12/showdown

[5] "Capturing Technological Innovation in Legal Services." The Law Society, January 2017, www.lawsociety.org.uk/support-services/research-trends/capturing-technological-innovation-report

Learning to swim

In the UK, law firms have got the message, according to law firm innovation research commissioned by Travelers and The Lawyer in 2016.

The research, which included surveys of 165 firms, ranging from the magic circle to sole practitioners, along with interviews of managing partners, executives and risk managers, found that increased use of AI was coming to the profession soon if it hadn't arrived already. When asked when they believe AI will be used in the delivery of legal services at their firm, 22 percent of respondents predicted they would use it in five to six years, 30 percent in three to four years and 45 percent in the next two years.[6]

What can AI do for law firms?

When AI makes it possible for lawyers to review significantly larger sets of data more quickly than would be possible by human-only review, that faster, streamlined review will benefit clients – or perhaps leave behind any firms that don't provide it.

Further, in a profession comprising both sole practitioners and firms employing thousands of lawyers, AI can level the playing field, according to Richard Diffenthal, Partner at Hogan Lovells and a Co-Leader of the London Technology Hub: "One of the beauties of AI and particularly the platforms coming to market today is that they're easy to deploy, either on the premises or through the cloud," he said. "They can also be scaled from very small operations to multinationals. This means that, regardless of the size of your firm, you should be able to find a solution that meets your needs. It can become a tool in every lawyer's armoury.[7]

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>
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[6] "Experts need innovative minds: How legal firms are innovating to respond to client demands." Travelers and The Lawyer, May 2016, www.travelers.co.uk/iw-documents/uk/documents/whitepapers-innovation-in-the-legal-sector.pdf

[7] Diffenthal, Richard. "AI is starting to live up to the hype." Travelers, www.travelers.co.uk/small-business-insurance/legal/ai-delivers (accessed 5 September 2019).

Artificial intelligence as a black box

As much potential as artificial intelligence has to help organisations innovate their services in a variety of professions, there have been growing pains.

In a paper published recently in the journal Science, researchers from Harvard and MIT reported that as artificial intelligence technology has spread across the medical field, it has shown it can be vulnerable to "adversarial attacks" whereby an AI system can be manipulated into seeing an illness that isn't there or not seeing one that is.[8]

The medical profession is hardly alone in having to manage AI system glitches and as law firms adopt AI technology to gain a competitive advantage, problems are inevitable. When mistakes happen — or a client challenges your firm's work or even the cost of the work you have completed with the help of an algorithm — who is responsible and how do you respond?

"We're going to have to start thinking fast about what we're prepared to let technology do," Paul Smith said. "When we do apply it, to what concepts can we apply it? Do we have ethical issues that come to light?"

[8] Metz, Cade and Smith, Craig S. "Warnings of a Dark Side to A.I. in Health Care." New York Times, 21 March 2019, www.nytimes.com/2019/03/21/science/health-medicine-artificial-intelligence.html

Who is liable when AI fails to perform?

In its report "Who is liable when AI fails to perform?", CMS said the long list of parties involved in an AI system (e.g. the data provider, designer, manufacturer, programmer, developer, user and AI system itself), can make it all the more difficult to establish liability when problems occur. To better understand where one party's responsibility ends and another's begins, it can help to ask such questions as:

- Was the damage caused when the AI system was in use and were the instructions followed?
- Was the system provided with any limitations and were they communicated to the purchaser?
- Was the damage caused while the AI system was still learning?
- Was the AI system provided with open-source software?
- Can the damage be traced back to the design or production of the AI system, or was there an error in the implementation by its user?

While as the law currently stands, the user of an AI system is less likely to be at fault than the manufacturer, there may be further debates as to whether and to what extent fault may lie with the programmer, the designer or the expert who provided knowledge to the AI system. Contributory negligence may also be a factor.[9]

All told, the complexity of the business environment that AI is creating is one in which lawyers will surely be needed – if perhaps not for the roles they had in mind.

"Lawyers who have been AI-enabled will be able to spend more time with organisations talking about what they are supposed to be doing," said Smith.

"Lawyers have a big job to do and in many ways AI will help them find what their true role is – to be the conscience of organisations."

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[9] "Artificial intelligence: Who is liable when AI fails to perform?" CMS, 2018, https://cms.law/en/GBR/Publication/Artificial-Intelligence-Who-is-liable-when-AI-fails-to-perform

Legal tech's evolving landscape

Among the UK's 200 largest law firms as measured by fee income, there is growing, though still limited, use of AI products.

According to the UK's 2018 Legal IT Insider, which tracks the IT products used by these firms and publishes an annual list of them, the primary AI applications used by the legal market offer such services as document management and content review, matter management and email security systems. The most commonly used product was the cybersecurity platform Tessian, which the report indicates is used by 35 firms. Others include Kira Systems, iManage, Luminance and ThoughtRiver.

Beyond product, there is simply a rapid rate of development right now in the legal AI market as new legal technology firms emerge, law firms partner with technology firms, and as law firms become producers of technology themselves.

A recent Artificial Lawyer article identified four themes that characterise the current landscape for legal tech:

- Consolidation and platformization: Companies are identifying opportunities to make money by creating the largest one-stop-shops that can be assembled to service the growing tech and data needs of law firms and corporations.
- Continued proliferation of legal tech companies: In a nod to the liberalisation of the market, the article notes: "A legal tech startup can get going with a team of three or four people and some savings in the bank (not that there's any shortage of angel and seed funding out there if people want it) – and that is one of the great things about software. If you have a computer, have a truly innovative idea and can write great code, the world is your oyster...or it could be."
- Incubator/accelerator growth: Legal tech innovation centres and programmes are on the rise, with new ones appearing at media companies, startups and a Big Four accounting firm.
- The rise of law firms as tech producers: Law firms are building proprietary products – though they may have been built with a technology firm's software. Clyde & Co., for example, built a parametric smart contract for the insurance sector and is now looking to sell the application to its insurance clients.

"A legal tech startup can get going with a team of three or four people and some savings in the bank"

Building a better algorithm

Humans have inherent biases. How can machines avoid having them?

It's an important area of research for Hoa Ton-That, who works in the emerging technologies group at the Travelers Innovation Centre in the US and has developed technologies ranging from employee- and customer-facing chatbots to computer models that can predict a property's risk of damage due to wildfires based on the trees surrounding it.

Ton-That and his team needed to make sure the chatbots would respond in the same way regardless of whether the person on the other end was a man or a woman, for example, and that they focused more on the words a person used versus how he or she said them. The wildfire model couldn't discriminate based on the size of a home.

"We are actively researching ways of explaining our model and understanding why it does a certain thing or can be biased or prejudiced in any way," he said.

"It's important to us because people won't be able to trust us unless we can explain why a model works and how it runs. Then we also want to be sure ourselves that any model we produce didn't in any way put someone at a disadvantage."

In case it seems like machine-learning models are making humans obsolete, rest assured: Ton-That said human assessments of models are vital to identifying potential problems and communicating about a model's functionality.

"It's an active area of research for our group because as technology becomes more prevalent, how do we assign blame or know what caused the failure of model if it does occur?" he said. "Obviously no one is omniscient but we try to reduce risk by using a rigorous third-party review model much like the peer-review process in academia. We document the concerns we have, get the reviews of other statisticians and document how we addressed those concerns and how we can check if they're occurring."

"It's an active area of research for our group because as technology becomes more prevalent, how do we assign blame or know what caused the failure of model if it does occur?"

Hoa Ton-That
Senior Risk Managment Consultant, Travelers Europe

To find out more visit travelers.co.uk/legal

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