



AI & Automation: the Future of Work

EXECUTIVE BRIEFINGS

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The interplay between technology and human resources was the focus of Dell Technologies' research project [*Realising 2030 – the Future of Work*](#), conducted in conjunction with the independent research group, Institute for the Future (ITF). It was also the focus for a series of CXO briefings conducted around Australia late 2019, which brought together thought leaders in artificial intelligence, high performance technology and people and culture to discuss the future of work and the roles that each group might play.



The future of work is an issue that impacts everyone and, as such, determining what that future might look like is a task that resides with more than just one group or function.

However, within that group of stakeholders are two that play critical roles – the human resources team that is responsible for workforce composition and experience, and the technology team that supplies and develops the tools which workers use to get their work done. And neither group can manage and implement the future of work independently.

The Age of Augmented Humanity

While much of the discussion of the future of work has focused on technology's role in enhancing productivity, *Realising 2030 – the Future of Work* explored how emerging technologies could reshape the work environment by 2030, and enable people



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and communities to pursue and sustain themselves with more creative, meaningful and equitable ways of working.

Researchers cited three key technology-driven shifts that would usher in a more inclusive and rewarding work experience. The first of these described how Artificial Intelligence (AI) would be utilised to create more equitable workplaces by assessing candidates based on their capabilities, rather than gender, age or class. This idea of using AI to remove human bias was likely to gain traction over time as notions of fairness and ethical behaviour became more prominent, with 67% of business leaders expecting to use new technologies to create equal opportunities.

The second finding related to empowered workers and described how AI would be used to enhance human-to-machine interaction through the creation of new interfaces using 3D haptic feedback and gesture recognition – as well as using augmented reality, virtual reality, and mixed reality interfaces to allow users to turn abstract information into rich, interactive experiences. This notion of using AI to empower workers was shown

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The final finding related to the idea of AI fluency, and described how AI systems would complement and augment human capabilities by continuously building and improving their understanding of humans to collaborate and drive productivity. This notion of an augmented workforce was also warmly embraced by business leaders with 70% reporting they would welcome people partnering with machines/robots to surpass human limitations.

There were also numerous barriers to be overcome before these visions of an AI-powered future could come to pass, such as ensuring the systems used for skills assessment themselves did not include bias through poor coding or faulty data. Empowered workers would require a high level of reskilling to be able to design and utilise these new interfaces. Further, the rise of freelancing and the gig economy already showed how the shifts that AI could create needed to be considered through the lens of workers' rights and protection.



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Co-designing a better future

According to Dell Technologies' Senior Vice President and Managing Director for Australia and New Zealand, Angela Fox, the issues raised in the report aligned closely with her organisation's focus on values.

"We are very committed as an organisation to the impact that we have – and the role that we believe our technology plays – in driving progress," Fox said. "We think about advancing sustainability, cultivating inclusion, and the role that technology plays in changing lives."

That ethos is embodied in the work of Marita Cheng (pictured top right), who has spent much of her life using artificial intelligence and robotics technologies to improve the lives of hundreds of thousands of people around the world.



One project called Aipoly, for example, used computer vision to identify objects for the vision impaired. Success with this project led Cheng to investigate how physical robots could also be used to change people's lives, leading to experiments with telepresence robots that enabled a person in any location to virtually attend meetings or events in other places.

She said the applications for the technology extended far beyond taking tours and attending meetings.

"You can check up on your parents or your grandparents remotely and have that close connection," Cheng said. "People who are in rehabilitation can have one in their home so they can have dinner with their family in the evenings. And people in Aurukun

can go to museums or art galleries in Melbourne or Sydney and have that experience, even though they live far away.”

Cheng and her team have also built robot arms that provide mobility to disabled people and created a voice interface to help them easily move the device.

Building the human-machine partnership at work

These same technologies are also being applied in a business context, where they are helping organisations automate and improve processes, and providing the capability to undertake tasks that were never previously possible.

The Chief Technology Officer for APAC and Japan at Dell Technologies, Matt Zwolenski (pictured top left), said his company was working with numerous organisations to determine how best to apply AI strategies to their operations. He said one of the key lessons was to think of AI not as a set of projects, but as an enabler of business strategy.

He cited one example as the US-based urban agriculture company, AeroFarms. “They are building indoor farms with shelves of crops, and they’re applying sensors to the farms and using analytics to produce cleaner, better-grown crops,” Zwolenski said. “Those farms are 90 per cent more efficient in terms of water supply than a traditional farm and can produce 300 times more crops. And you can locate them close to where the food is used, near the cities.”

Zwolenski said AI was also improving the quality of life for workers by automating low-value repetitive tasks and freeing them to be more productive. In the case of the Singapore Port Authority, he said workers who had once physically moved containers in the Singaporean heat had been retrained to manage the same process remotely from air-conditioned offices and were consequently moving ten times more items with the



same workforce. This human-machine partnership had also extended the working life of staff.

“Applying automation to container management has enabled a better life for these workers and scaled the business,” Zwolenski said.

A critical factor in the success of these projects was the work undertaken to retrain workers with domain expertise with the technology skills that would help them apply that knowledge in new ways.

Hence, he said, those workers who would prosper in the future were the ones who could continue learning new skills. “Today, what we look for is people with curious minds, and we look at how they learn,” Zwolenski said. “We look at how they continually train themselves and are eager to take on new things.”

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Educating the Next Generations in AI

The thirst for knowledge is creating huge demand for training services, both in the technical competency needed to utilise AI systems, as well as the imagination and strategic thinking necessary to envision how they can be best used.

According to Dr John Flackett (pictured above right), co-founder of the AI training specialists AiLab, the current opportunity for Australia flowing from the adoption of AI stood at approximately \$1.2 trillion by 2030 in terms of productivity gains.

“If we take a small task that traditionally would take a human some time to do and we can automate that, then that’s very productive for the business,” Flackett said. “But there are also new capabilities. If we use machine

learning to understand a user and predict what service they want, that allows us to develop new services and sell those new services to more users and so grow our companies. And this is the thing about the future of work and automation – these tools provide companies with the ability to grow: grow new services and gather more customers which, in turn, requires more people in places like sales.

“So, when I’m talking to companies, what we try to do is really look at the strategy for employing AI because a lot of people don’t really know where to start.”

In terms of future skills, Hackett said younger workers would be well advised to build their skills in areas such as critical thinking, collaboration, teamwork and problem solving. This will be important

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for organisations as they learned and iterated through AI projects. “AI projects are moving-target projects – the technology moves really quick, the data changes all the time because you’re feeding that data back in and then you’re gathering more data and feeding it back in,” Hackett said. “You have to learn, because you haven’t done it before. So keep humans in the loop.”

Partnering to solve wicked problems

While organisations are investigating how AI might deliver them greater value, the technology can also be applied to much larger challenges.

According to Greg Oakes, a specialist in high performance computing and AI at Dell Technologies,

AI will play a critical role in solving some of the biggest problems that Australia faces.

“AI, together with emerging technology, is driving new science discovery and innovation,” Oakes said. “That truly is the force driving the Fourth Industrial Revolution. We are moving towards a digital culture that’s embedded at every level in an organisation in the services, products and the systems that support those products.

“And it’s up to leaders to basically empower an organisation in that digital culture.”

However, building out this AI-powered vision of the future of work also requires significant educational efforts to be directed to the society within which it will operate.

Former Australian Senator and Industry Consultant, the Hon. Kate Lundy (pictured bottom right), said that care needed to be taken when discussing AI to ensure that fear did not cloud the discussion.

“It’s about the conversation in front of that curve and extracting the upside of that technological impact in the workforce,” Lundy said. “That can change the culture from being negative and fearful. We need to transform the fear that AI is going to take our jobs, to something that can be embraced at an industrial level that will help make the workforce more agile and more responsive.”

But that upside can only be achieved if organisations have the required skills. Hence, Oakes said the future of the human/machine partnership in the workplace required IT and HR executives to come together to ensure organisations did actually have access to the skills they needed.

“Each of them needs to understand the requirements more clearly and the benefits that AI can deliver,” Oakes said. “That interaction between HR and the IT collective needs to happen in a way in which there is some control and some understanding of what’s trying to be achieved.”



About Dell Technologies

In 2016, Dell and EMC joined forces in the largest technology merger in history to become Dell Technologies. Dell Technologies unites seven technology leaders – Dell, Dell EMC, Pivotal, RSA, Secureworks, Virtustream and VMware – in one company with the power to drive digital transformation and generate real results every day for customers and partners. As a result, Dell Technologies offers customers greater value-added services from a technology and shared culture point. Dell Technologies is instrumental in changing the digital landscape the world over, fuelled by the desire to drive human progress through technology.



About 6 Degrees Media

6 Degrees Media was established by Angela Horvat, former Editor and Publisher of award-winning publications including *Computerworld*, *Information Age*, *My Business*, *The Who's Who of Financial Services* and Founder of FST Media; and Emma Charter, one of Australia's most connected and respected media and events strategists with more than 15 years' experience in delivering C-Level engagement strategies for clients in Australia and the UK. Together, they lead a team of Australia's most talented and driven conference producers, technology and business journalists and event managers to create content-driven experiences across C-level roundtables, custom events and large-scale conferences.