

Realising 2030 – the CIO's Imperative

DELL Technologies



 Microsoft





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An elite group of 40 CXOs gathered to attend *Realising 2030 – the CIO's Imperative* event in Sydney to hear a thought-leadership panel discuss how businesses are harnessing emerging technologies to unlock the value in their data to reduce risk, improve customer experiences and create new revenue streams.

Australia's foremost innovation experts from academia and industry came together to consider how Artificial Intelligence, blockchain and IoT will drive new competitive opportunities for CIOs and their organisations. The thought leadership panel included Dan Jermyn – Head of Digital Customer Decisioning, Data Science, from The Commonwealth Bank of Australia; Professor Toby Walsh – globally renowned AI expert, author, UNSW Scientia Professor of Artificial Intelligence and Research Group Leader at the CSIRO's Data61; Kristeen McCarthy – Head of Digital Experience and Activation, Suncorp Group; Professor Fang Chen – a prominent figure in creating innovative AI and Human/Machine Interaction solutions with 250 publications and 30 patents in eight countries and two professorships with

the UNSW and the University of Sydney; and Danny Elmarji – Dell EMC's Chief Technology Officer who is at the forefront of technological advancements including AI, automation, machine learning, IoT and blockchain. The panel discussion was moderated by Adam Spencer – maths genius, author and innovation commentator.

Together, they canvassed the biggest challenges in the adoption of emerging technologies; the innovative examples of how leading companies are leveraging these innovations today and some of the critical lessons learned along the way. They also touched on key findings from a recent report by Dell Technologies, [*Realizing 2030: A Divided Vision of the Future*](#) that was based on an international survey of 3,800 business leaders.

Left to Right: Adam Spencer, Moderator; Dan Jermyn, Head of Digital Customer Decisioning, Data Science, The Commonwealth Bank of Australia; Kristeen McCarthy, Head of Digital Experience and Activation, Suncorp Group; Professor Toby Walsh, UNSW and Research Group Leader at CSIRO's Data61; Professor Fang Chen, UNSW and the University of Sydney; Danny Elmarji, Dell EMC's Chief Technology Officer.

Australian businesses are on the cusp of the next era of human-machine partnership, characterised by interactions that are deeper, richer and more immersive than ever before and which will help us to surpass our own limitations.

Regardless of the benefits, it seems that not everyone is convinced about this new era in technology. Dell Technologies global survey, [*Realizing 2030: A Divided Vision of the Future*](#), found that while more than 96 per cent of the 3,800 business leaders surveyed believed organisations would outsource tasks to machines by 2030 – and 82 per cent expected humans and machines would work as integrated teams within the next five years – only half supported the notion that automated systems would free up their time. More than half of respondents did not believe they would experience greater job satisfaction through offloading unwanted tasks to

have otherwise been left unchanged for decades. While much of industry discussion relating to AI to date has focused on the automation of repeatable tasks, panellists described one of the most meaningful benefits that flow from AI as being its ability to empower people.

UNSW Scientia Professor of Artificial Intelligence, Toby Walsh, described how the emerging era of AI should be viewed as an opportunity to eliminate from our lives those tasks that we find dull and repetitive. That would lead to freeing people to do the things they were best at, and calling upon their emotional and social intelligence, creativity, and adaptability.

“We should celebrate when we don’t get humans to do them anymore, because they were robotic and we should never have had humans do them in the first place,”

Walsh described his own experience of working in the transport sector, where millions of dollars were being saved through the application of AI. In one specific example at a trucking company, they had delivered a 10 per cent saving per kilometre driven.

intelligent machines. Their scepticism can be well understood, considering the many barriers that need to be overcome to make this vision a reality. Leading these were a lack of digital vision and strategy within their organisation and a lack of workforce readiness, as nominated by 61 per cent of respondents.

Despite these reservations, the need to explore the potential benefits of new technology is fuelling a wave of new investment, with 55 per cent of organisations devoting resources to advanced artificial intelligence for better decision making, closely followed by converged infrastructure as an underlying platform and virtual and augmented reality at the human/machine interface. Realising the advantages of these technologies will also require a commensurate investment in learning and skills development, as well as in the ability to protect these new capabilities.

One field that holds enormous potential is that of artificial intelligence (AI) and the accompanying technology of machine learning (ML) and blockchain. This was the core focus for Dell Technologies’ *Realising 2030 – the CIO’s Imperative* event. Panellists at the gathering drew on the critical insights from Dell Technologies’ aforementioned survey and revealed how they were already witnessing examples of the tremendous benefits when AI was applied to improve processes that might

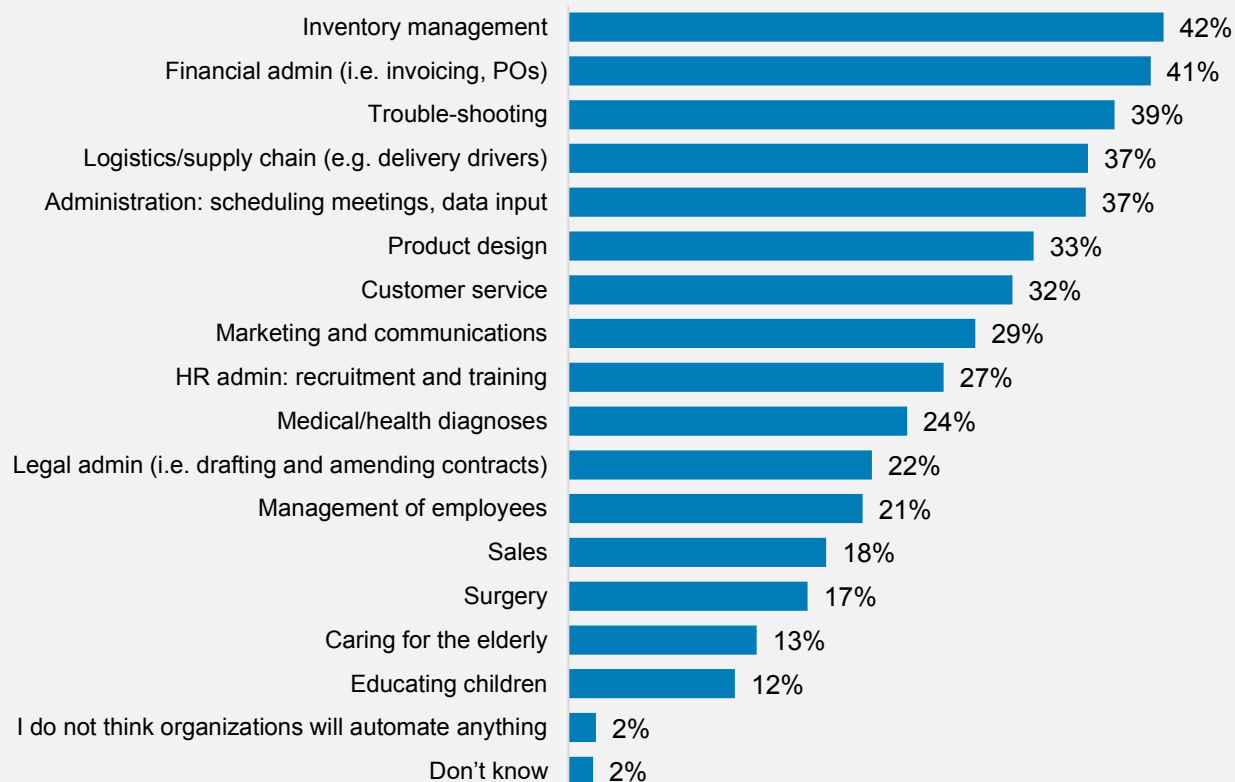
Walsh said. “We should see this as an opportunity to lift our game – to improve our product, our service and our relationship with our customers – so that we can better use the time that’s freed up.”

Walsh described examples of excellence in the use of AI across different organisations, including how Australia had developed the longest robots on the planet. “It’s the 3-kilometre-long train that is delivering iron ore out of the Pilbara,” Walsh said. “The way the raw commodity prices have been going, those mines would otherwise not be profitable. They’re still making a return because they’re getting 15 per cent more throughput on the line.

“But in terms of other sectors, I think the one that probably has had the most immediate return is marketing, and understanding your customer.”

Walsh described his own experience of working in the transport sector, where millions of dollars were being saved through the application of AI. In one specific example at a trucking company, they had delivered a 10 per cent saving per kilometre driven, with a commensurate drop in fuel costs and emissions per delivery as well as better customer satisfaction – and it wasn’t just the company’s bottom line that benefitted.

Top tasks likely outsourced to machines



Almost all **(96%)** respondents think that organizations will outsource tasks to machines/automate by 2030

On average, respondents identified **5** processes ripe for automation within their organization

“Which tasks do you anticipate organizations will outsource to machines/automate by 2030?” Base: 3800

“The drivers were much happier,” Walsh said. “They got much better routes, and they spent less time in the cab, so everyone came out ahead.”

The Head of Digital Customer Decisioning and Data Science at the Commonwealth Bank, Dan Jermyn, described how AI was being used within the bank's customer engagement engine to manage communications and enable frontline staff to have strong conversations across 19 different channels. In this scenario AI was being used to help staff understand the banking needs of customers with whom they had never previously interacted and yet still know the best way to help them.

With more than 100 billion data points, CBA uses AI to return the next-best conversation to customers. “This is the most advanced implementation of its kind in the world. It's incredible, and it's the sort of thing that we couldn't previously do” Jermyn said.

Participants also described how AI was being used to help organisations deliver a faster service for customers by eliminating manual processes and better linking customers to the outcome they were seeking. Suncorp Group's Head of Digital Experience Activation, Kristeen McCarthy, said her company's insurance team had developed an application that used AI to assess a claim and connect a customer straight through to a repair team.

“People need to claim very quickly and get certainty about what's going to happen next,” McCarthy says. “They can do that in less than five minutes when, otherwise, they would have been waiting on the phone for a long time.”

This also took away the strain that contact centre staff experienced in the wake of natural disasters, when call volumes could spike significantly.

Each of these examples represented automation of processes, but also delivered a benefit back to both staff members and the customers by providing them with access to better information or a faster outcome. Hence their overall experience was augmented and this provided evidence in support of AI's ability to free up time and improve job satisfaction, as discussed in the Dell Technologies report *Realising 2030: A Divided Vision of the Future*.

Achieving these outcomes, however, required a significant investment, both in supporting technology and the skills needed to use it. According to Dell EMC's Chief Technology Officer Danny Elmarji, none of this was achievable if the investment was not in support of a specific business problem that the organisation was trying to solve.

Elmarji says “that's what we've seen be most successful: looking at something they can test out and make feasible and see a good return on investment, because you can spend a lot of money on technology that is never adopted and used.



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– Dan Jermyn, The Commonwealth Bank

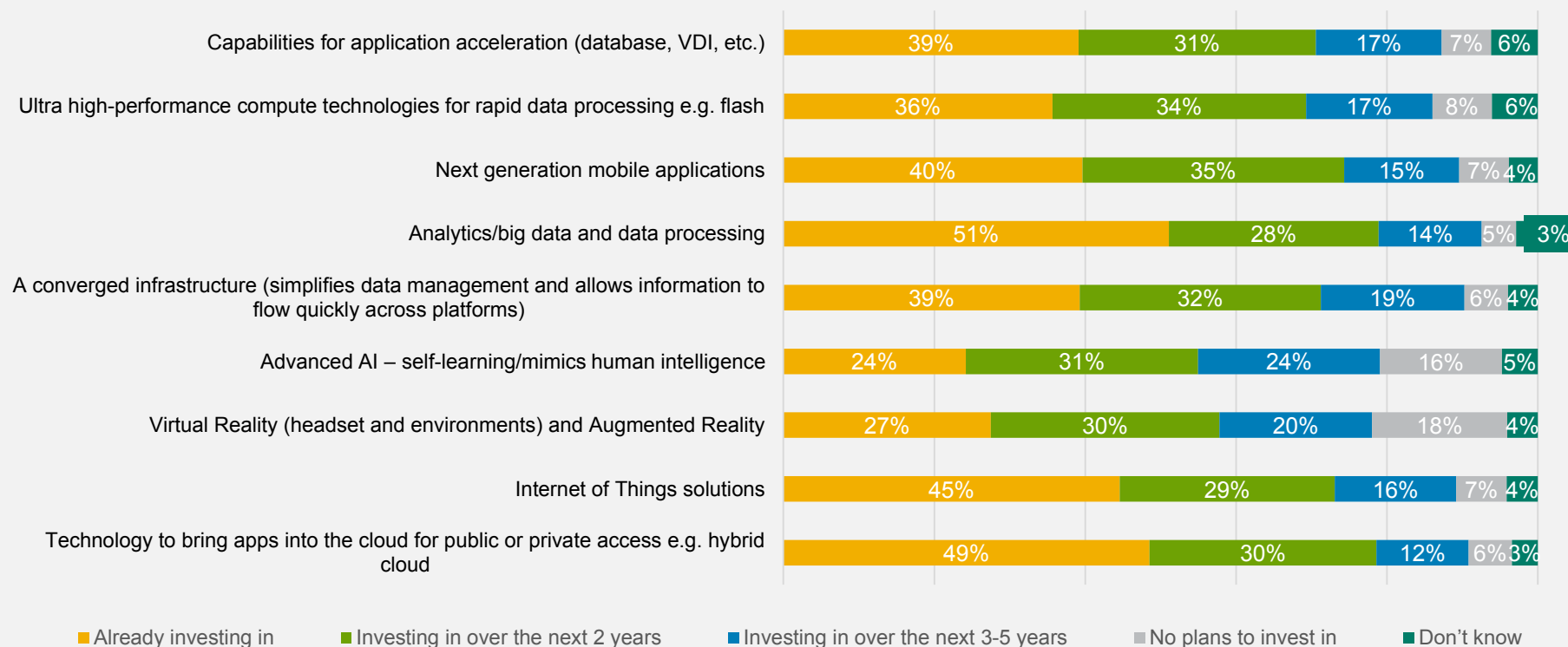
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“Then it's about having a culture that's encouraging innovation inside the organisation and one that allows you to try new things. The other aspect is how you build support to maintain your AI system and to expand that out.”

The Executive Director, Data Science, and Distinguished Professor at the University of Technology, Sydney, Fang Chen, also stressed the importance of bringing people along on the whole journey when it came to implementing AI projects. This was vital to ensuring the goals of the project (and its subsequent success) were well understood, and that the learnings from the project could be applied elsewhere.

She said people should not be fearful about launching into AI projects, but stressed that it was important to keep your feet on the ground when setting expectations, especially when the quality of the underlying data was yet to be tested.

Technology investments to become a digital business by 2030



“What new innovations or solutions is your organization investing in to become a successful digital business by 2030?” Base: 3800



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You're reducing your bandwidth costs, reducing your cost to compute and also reducing the cost of storing that data long-term in a central location.

– Dan Elmarji, Dell EMC

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“If you say ‘okay, we discovered that we need more data’, that’s fine because this is a learning exercise,” Chen said. “At least you learn how good or how bad your data is, and then slowly involve some of the processes and start learning and get upskilled.”

Also critical to a successful AI strategy is the underlying architecture that is moving data through an organisation. Elmarji said that some organisations were fundamentally rethinking how they organised their technology, using the Internet of Things to gather information in the field and then using a distributed architecture to make use of that data where it is most needed.

“The edge is going to be so important,” Elmarji says. “You’re reducing your bandwidth costs, reducing your cost to compute and also reducing the cost of storing that data long-term in a central location.”

Getting all these elements right could sound daunting, but Chen said this should not hold organisations back from getting started.

“Start small, keep an agile process, and then keep learning,” Chen said. “There are plenty of off-the-shelf tools now. Just play a little bit and you will get the feeling.”

Getting on the learning path quickly could also prove critical over the longer term. Various participants in the discussion described how the spoils from new technologies often fell to organisations that used them to disrupt existing business models, as Uber and Airbnb have done.

Elmarji stated how this process of creative disruption would accelerate as entrepreneurs and investors examined the potential across a broader range of industries.

“Agriculture is a great example,” Elmarji said. “There is the water challenge, and the need to get food to the plate really quickly. Our appetite for good quality food isn’t going away.”

He cited the example of AeroFarms, a New Jersey-based company that was using AI to create new methods of sustainable farming.

“They are building stacked vertical farms in warehouses across the river from Manhattan,” Elmarji said. “These are things that we haven’t yet experienced in the wider Australian economy, or seen done at critical mass. When you think of the opportunity that can come from businesses that can start up a new, completely different way of disrupting the supply chain by using data at the edge: growing produce for consumers using minimal soil – these are all big advances for humankind.”

The impact of these disruptions was being felt not just by direct competitors, however, but in all parts of a market’s value chain, including general insurance.

2030 Forecasts

Our Lives	Agree	Disagree
Automated systems will free-up our time	50%	50%
People will take care of themselves better with healthcare tracking devices	46%	54%
People will absorb and manage information in completely different ways	54%	46%
Smart machines will work as admins in our lives – connecting our lives to highly personalized goods and services	43%	57%
It will be harder to disconnect from technology	42%	58%
Our Work	Agree	Disagree
We'll be more productive by collaborating more	49%	51%
We'll have more job satisfaction by offloading the tasks that we don't want to do to intelligent machines	42%	58%
Schools will need to teach how to learn rather than what to learn to prepare students for jobs that don't exist yet	56%	44%
We'll learn on the job with AR	46%	54%
Not sure what the next 10-15 years will look like for our industry, let alone our employees	50%	50%
Business	Agree	Disagree
Clear protocols will be need to be established if autonomous machines fail	50%	50%
The more we depend upon technology, the more we'll have to lose in the event of a cyber-attack	48%	52%
Computers will need to be able to decipher between good and bad commands	45%	55%
We'll be part of a globally connected, remote workforce	49%	51%
Technology will connect the right person to the right task, at the right time	41%	59%

(NB Respondents who disagree did not select the relevant answer option.)

Man & Machine

42% believe we'll have more job satisfaction by offloading tasks that we don't want to do to machines.

So, which tasks will we offload by 2030? Responses in order of likelihood:

1. Inventory management
2. Financial admin (i.e. invoices, POs)
3. Troubleshooting
4. Logistics/supply chain (i.e. delivery drivers)
5. Administration (i.e. scheduling meetings, data input)
6. Product design
7. Customer service
8. Marketing & communications
9. HR admin (recruitment and training)
10. Medical / health diagnoses
11. Legal admin (i.e. drafting and amending contracts)
12. Management of employees
13. Sales
14. Surgery
15. Caring for the elderly
16. Educating children

McCarthy said the key to success was to constantly undertake experiments in the background, to ensure that when a tipping point came, the organisation was ready for it.

“The fascinating part of being a large incumbent insurance company is you tend to know how and when things will change, which we are very aware of,” McCarthy said. “You’ve got to work out at what point customer expectation going is to shift, and so you have the challenge of making a business case for something that hasn’t happened yet.”

McCarthy said that because the focus at Suncorp was consumer-led, this was used to fuel business case creation in favour of experimentation using a human-centric design approach. It was this approach that had led to the decision to augment the role of people in customer-facing roles in its contact centres with new technology investments.

Additionally, it is not just large organisations that can benefit. Jermyn stressed that the future was incredibly bright for the small business sector when it came to realising benefits from AI.

“The idea of AI and machine learning has been that you need PhDs to do it,” Jermyn said. “And it’s true that you definitely need some very, very smart people to do high-end work, but things like Auto-ML are emerging now, and we’ll certainly be looking at how we can use automated machine learning to scale up.”

While cheaper tools are an inevitable by-product of the advancement of technology, smaller businesses could still face a barrier in lacking the internal data sets needed to drive real value from AI. However, Jermyn said this too could be overcome.

“There are tonnes of data out there that is freely available,” Jermyn said. “Take one example – open weather data – which you can easily get from external sources.”

AI is, of course, not the only technological advancement sweeping across industry but, when combined with others, such as IoT and blockchain, incredible new possibilities emerged. One example cited was from the global gemmological industry, where the combination of AI and blockchain could lead to the creation of an irrefutable database of the world’s diamonds.

“From a consumer point of view, it’s fantastic,” Elmarji says. “It’s going to apply across many different types of trading items. There are people doing research on coffee beans right now, so you’re starting to see this open up new areas of innovation that we never thought were possible.

“With things like contracts, where the integrity of the data is incredibly important and needs to be auditable – there are loads of applications for that.”

Even those organisations that are on the cutting edge of AI today are, however, only exploring the merest fraction of its potential and will still be doing so for many



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years to come. According to Walsh, we could be as many as a hundred years away from building machines that are truly artificially intelligent.

“We can do narrow-focus tasks, and often people forget that that’s AI,” Walsh says. “You can talk to a computer today and it will pretty much understand you. It’s now entirely common to see people walking down the street talking to their devices. That was something that was considered impossible five or 10 years ago. Those things just pass naturally into acceptance.

“AI is not just playing games of chess: it is to be able to read X-rays at a speed and accuracy greater than humans. It’s hard not to be impressed and to realise you can actually write a programme to do those things.”



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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.

