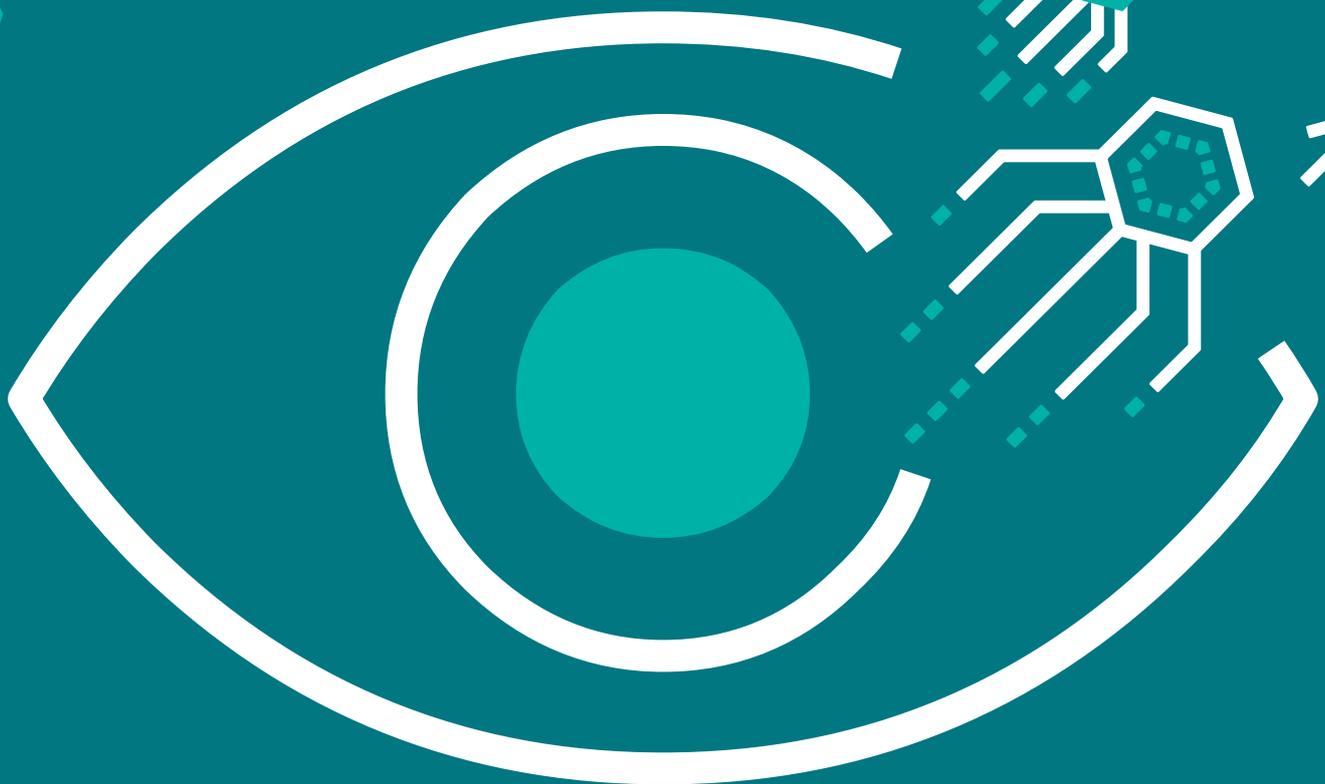


BRAVE NEW WORLD

Are consumers ready for AI?



By Kirsten Riolo and Pascal Bourgeat

GAME CHANGERS





CONTENTS

Introduction 3

Hello to the Age of Cognition
 Comment by Ipsos Behavioural Scientist, Dr. Pascal Bourgeat 4

PART 1: HOW MUCH DO AUSTRALIAN CONSUMERS KNOW ABOUT AI?

1.1 AI — it’s all the same to us 9

1.2 Amongst those who have heard of AI, the majority have very limited knowledge about the technologies in this space 10

1.3 When it comes to current, real life applications of AI, awareness is mixed 11

1.4 For certain applications of AI, people are not convinced that the benefits outweigh the risks — especially when it’s about relinquishing control of human life and their money 12

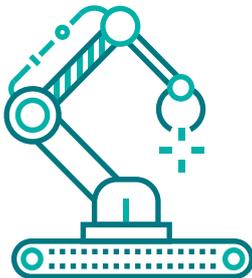
PART 2: HOW DO AUSTRALIAN CONSUMERS FEEL ABOUT AI AND ITS POTENTIAL ROLE IN THE FUTURE?

2.1 Australians are conflicted when it comes to how they feel about technology in general 15

2.2 Some are optimistic about AI, while many just don’t know what to think 16

2.3 People are most afraid of robots taking jobs 17

2.4 People are open to AI if makes likes life as a consumer easier but few are comfortable with the idea of interacting with robots 18



INTRODUCTION

Barely a week goes by, it seems, without a provocative and usually fear-inducing media headline about Artificial Intelligence and its potential to reshape the world as we know it. High profile figures in the technology world in particular, notably Tesla's Elon Musk, have issued multiple public warnings about the potential for AI based weapons developed for warfare to become dangerously 'autonomous', while others, including Alibaba's Jack Ma, have warned of mass job losses in coming decades.

Meanwhile, the business world continues to scramble to understand how they can best implement AI into everything from back-end and operations to product development, CX and marketing. The growth in chat bots will attest to that, with ING Direct the latest Australian organisation to announce plans to employ the use of bots on social media.

But little is heard about what consumers — who are at the very heart of business, big and small — actually understand of AI. Do they even know what it is? What do they make of all of the hype and the 'man vs machine' vision of the future painted by the likes of Elon Musk? And as consumers, what are their comfort levels around the use of AI in the touch points they interact with every day?

To explore perceptions, Ipsos conducted a survey amongst a representative sample of more than 1000 Australians, which revealed that most people understand little about the

range of technologies that fall under the AI banner and what they do know is informed by Hollywood — 'the Terminator effect,' if you like.

The research also reveals that Australians are conflicted about the role of technology in their lives more broadly, as well as the role of AI. They're not quite sure whether to be afraid or hopeful.

However, one thing is certain. A majority — 7 in 10 — believe that the labour market of the future will be radically reshaped, resigning themselves to a tomorrow where many jobs are done by robots. Further — more than 6 in 10 — believe that replacing human workers with AI will be bad for society.

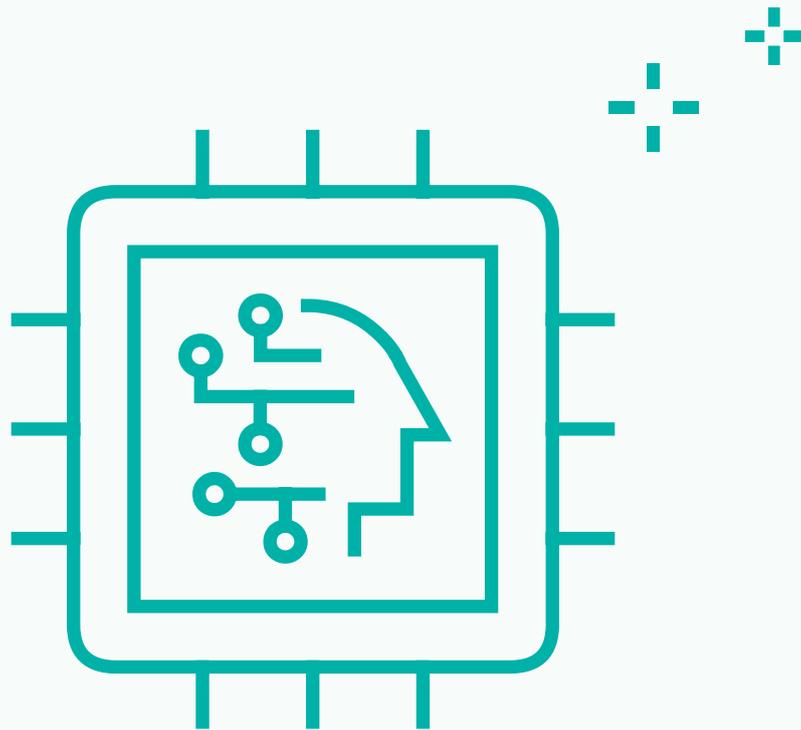
With so much concern about particular elements of AI taking, perhaps the most pressing job of business is to first educate consumers and then to address and alleviate their fears.

In addition to outlining the research findings, we'd like to share the thoughts of Ipsos Director of Behavioural Science, Dr Pascal Bourgeat. In his piece, 'Hello to the Age of Cognition,' Pascal explores AI through the lens of Behavioural Science and sets the scene for what AI really can do.

Kirsten Riolo
Director, Ipsos

ARTIFICIAL INTELLIGENCE

Hello the age of cognition!



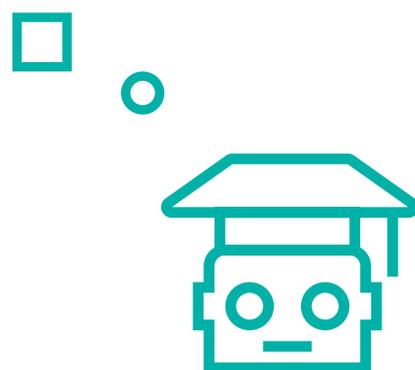
Pascal Bourgeat, director of behavioural science, Ipsos

AI IS NOT INTELLIGENCE

Memory, RAM and computing are not intelligence. As US science fiction writer Terry Bisson likes to put it “the meat does the thinking”. Bisson echoes the words of the father of AI, Marvin Minsky who coined the term and founded the AI Lab at MIT: “The brain happens to be a meat machine”.

Minsky’s original vision for AI was to make it “the science of making machines do things that would require intelligence if done by men”. This does not mean of course that the machines have to be intelligent in the way a human is thought to be intelligent: developing flexible and phenomenal social-cognitive abilities, learning adaptively, making new inferences and connections with everything and anything, understanding the same thing more than one way, thinking in different ways through emotion or reason and in different layers, having a view of the world around us and continuously engaging in cognitive processes that have off-the-chart energy efficiency. All that with a ridiculously low-sized working memory (aka RAM). Add humour: does AI think ‘How many robots does it take to change a light bulb’ is funny”? And consciousness, of course, but that’s another box we may never truly open.

If we compare AI (as bundles of hardware and/or software) with the human brain, AI remains a failure, at best a work in progress, despite the slick images from Hollywood and the current hype in media old and new. Whether AI will ever be able to develop a general human-like intelligence is still completely open. Neuroscientists who look at 100 billion neurons, with up to 10,000 synapses each and 180,000 kilometres of axonal cabling to link different areas of the brain with each other (most of the cabling sheathed with myelin to guarantee electrical conductivity) may have their doubts as to what we can ever achieve with a machine in comparison with the human brain.



AI IS ALREADY EMBEDDED IN OUR DAILY LIFE

On the other side, the public however, as the latest Ipsos survey shows, has already sensed the true nature and achievement of AI but is unsure of everything that it means for their professional and personal lives. In its basic but enduring form of ‘supervised machine-based learning’ (ML), AI has already permeated many areas of society, running silently in the background or in humanised (voice-based) interactive systems today, running autonomously in robotic machines tomorrow. Banking, telecommunications, manufacturing, defence and national security, the tax office, human resource managers, retailers, the public sector, the technology, big and small are into it.

PEOPLE HAVE EXAGGERATED FEARS OF AI

Behavioural and neuroscience clearly show how uncertainty breeds fear and people are ‘reasonably’ worried of a whole army of systems and machines that could take away, if not their jobs, at least many tasks, even though they find those very tasks boring or repetitive or sometimes make a serious mess of them. Nobody knows what the labour market of the future will look like if drivers, factory workers, contract lawyers, accountants, GPs and surgeons, journalists or retail sales assistants do not perform their job as effectively, error-free, efficiently and tirelessly as ‘narrowly-intelligent’ as machines. Still, the prospect is that tasks (more than jobs) are at risk to become automated. The public’s fears may be exaggerated but are probably not unfounded.



COGNITIVE COMPUTING IS THE NEW BUSINESS EL DORADO

Business is eyeing cognitive computing as a new source of growth, if not a new El Dorado of productivity but Artificial Intelligence, human centred design, behavioural insights and business performance metrics do not easily fit in a neat golden square. The machines of course are not going to fill in the square, it's (still) the job of people.

Therein lies the problem for AI. Despite trumpeted advances in deep learning and learning that runs unsupervised, AI machines remain the dummies of the social-cognitive world. And most of what business is yet to fully exploit in its golden square is part of the social cognitive world, the world of human behaviour in its predictability and complexity but also apparent paradoxes and confusion.

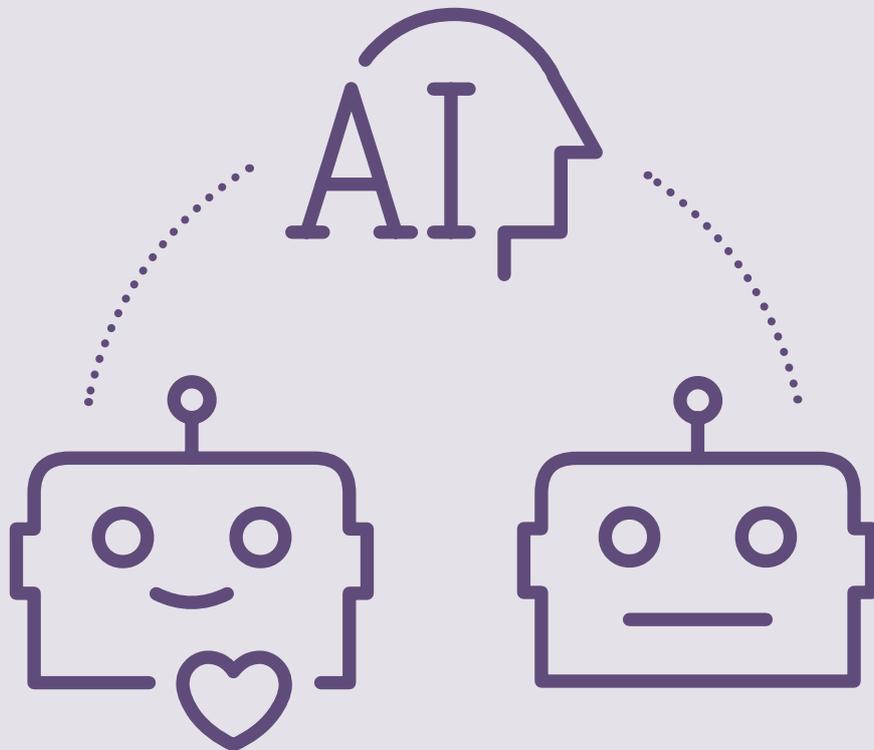
HUMAN-MACHINE COOPERATION POWERS THE AGE OF COGNITION

The solution lies in cooperation. This is always the case in human societies as we benefit as much from competition as we benefit from cooperation. This time however, cooperation is with machines. ML still works best as the eyes that are peerless at detecting patterns in an ocean of data which is way beyond what we can comfortably swim in. If we care to look carefully, those patterns often contain valuable 'behavioural insights'. We may not be able to see them in the first place (hence the role of machines as eyes) but if we know how behaviour works, by taking on board the many lessons and principles from the many areas of behavioural science, then we can make sense of some of those patterns and create value and social goods for business, public policy and services and the not-for-profit sector.

Ipsos is getting busy doing just that at the nexus of data science and behavioural science. It doesn't matter what the data is (tightly structured or more unstructured) or where it comes from and what the sector is (banking or hospitality, technological innovation or online retail, workplace safety or energy conservation, etc.). The universe of social media data is currently our best feed for ML but customers' databases, surveys with lots of participants and of course, any source of passive monitoring data (GPS and location, physiological and sensory tracking devices, behavioural data from transport patterns to self-regulation) are all available 'food for insight'. Behavioural and cognitive science is not a fad, it is the final frontier. Or is it? Hello the Age of Cognition, goodbye the Age of Information!

PART 1

How much do Australian consumers know about AI?



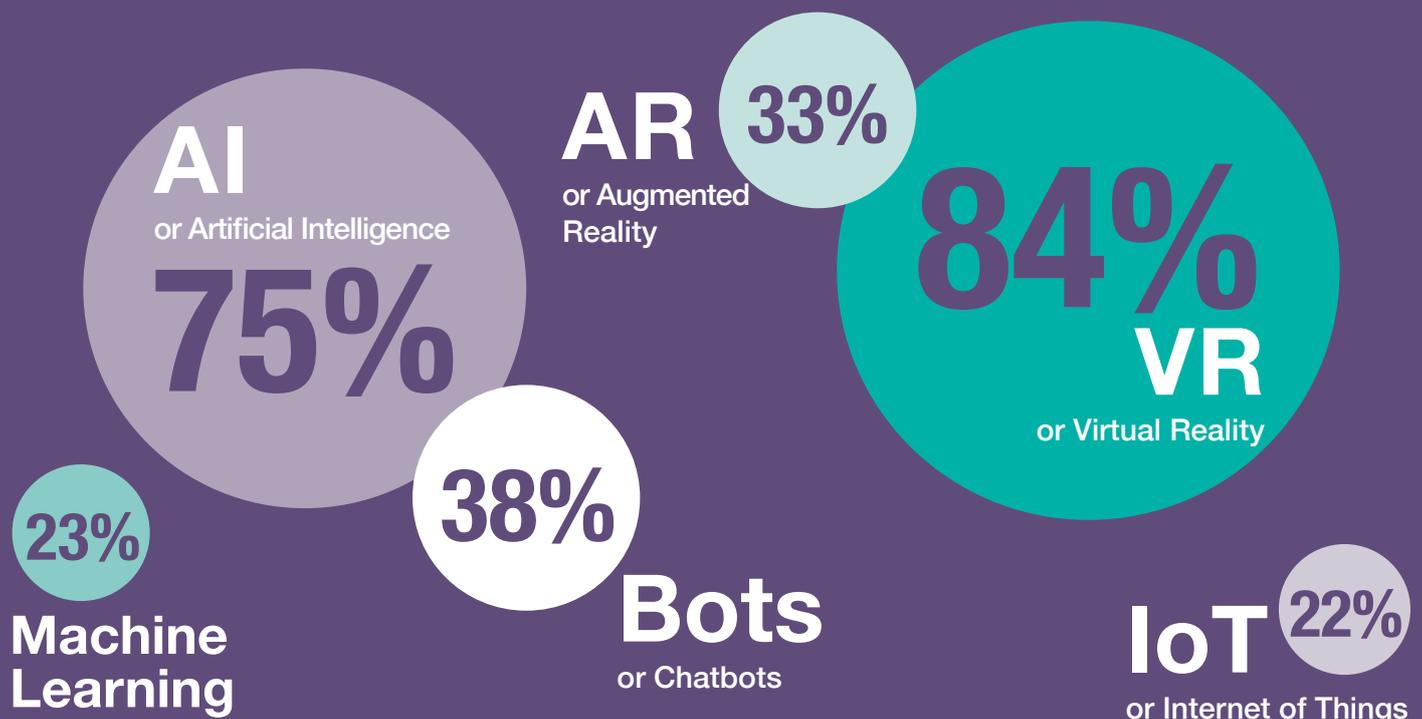
AI — IT'S ALL THE SAME TO US

'AI' has become something of an umbrella term used to describe the use of Artificial Intelligence in a wide range of contexts and applications, including everything from 'robots,' automation and machine learning right through to Augmented Reality and Virtual Reality.

The research findings reveal that among Australian consumers, actual awareness of the broad range of technologies that sit underneath the AI banner is low, suggesting that the most pressing job for policymakers and businesses looking to implement new AI technologies is education — starting from a basic level, one step at a time.

While awareness of the term AI itself is really high — **75% have heard of AI**, along with **Virtual Reality — 84% have heard of this** — awareness of other types of AI applications and technologies is much lower. Only around 1 in 4 (23%) have heard of **machine learning** and a similar proportion (22%) have heard of **The Internet of Things**.

BEYOND THE TERM AI ITSELF AND VIRTUAL REALITY, AWARENESS OF THE DIFFERENT TYPES OF TECHNOLOGIES IN THIS SPACE IS LOW

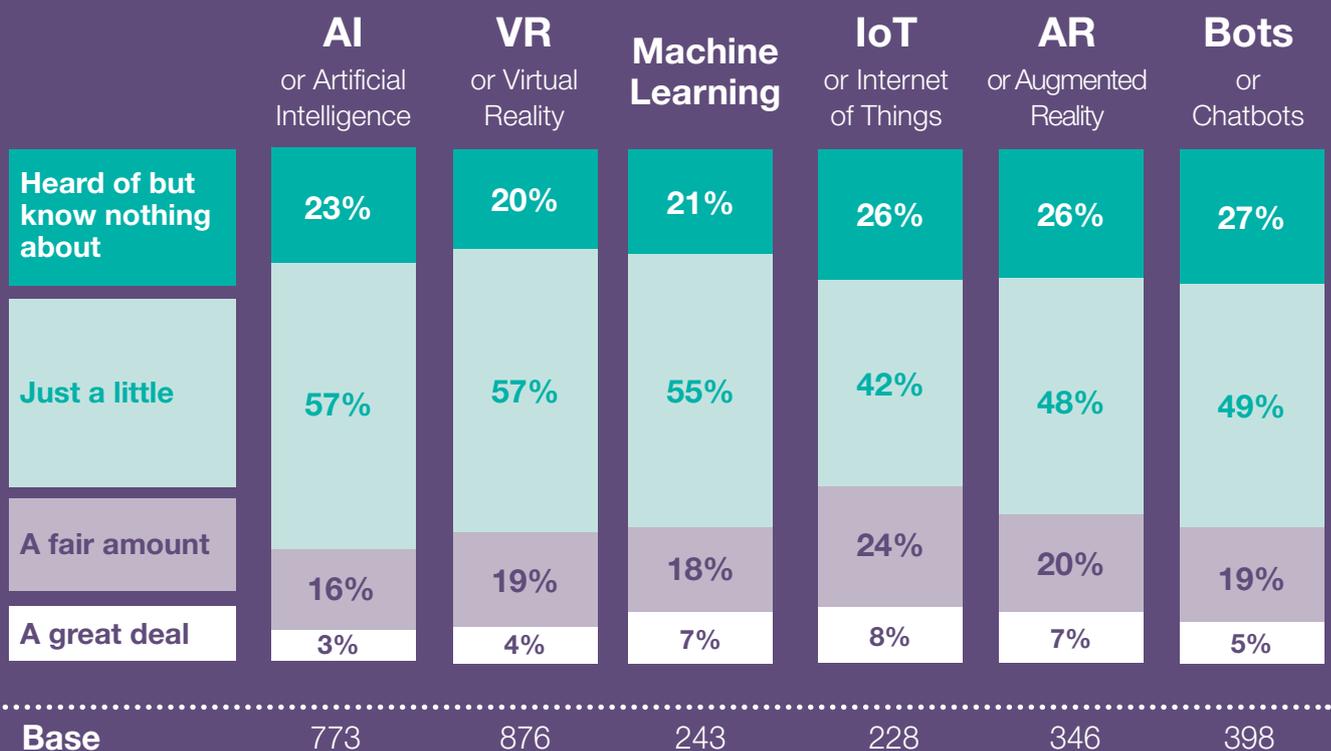


Question: Which of the following have you heard of?
Base: Total sample (n=1038)

AMONGST THOSE WHO HAVE HEARD OF THE DIFFERENT TYPES OF AI TECHNOLOGIES, THE MAJORITY HAVE VERY LIMITED KNOWLEDGE

Only very small proportions of those Australian consumers who have heard of AI technologies feel that they know **'a great deal'** about them (see chart below). The majority of Australians sit in the **'I've heard of but know nothing about'** and **'I know just a little'** camps.

HOW MUCH DO AUSTRALIANS KNOW ABOUT DIFFERENT TYPES OF AI APPLICATIONS AND TECHNOLOGIES?



Question: How much, if anything would you say you know about each of the following?

WHEN IT COMES TO CURRENT, REAL LIFE APPLICATIONS OF AI, AWARENESS IS MIXED

Thanks to Apple and Microsoft's virtual assistants Siri and Alexa, and Google's high profile work in cars, awareness of the use of AI in the form of speech recognition (**72%**) and driverless vehicles (**80%**) is high. Awareness of AI used in facial recognition (**73%**) is similarly high, along with highly targeted advertising (**69%**).

However, awareness of the use of AI in other contexts is much lower: the armed forces (**25%**), medical diagnosis (**33%**), in the care of the elderly (**33%**) and in the financial market (**24%**).

HOW AWARE ARE PEOPLE OF CURRENT, POPULAR APPLICATIONS OF AI?



Computers which can make investments in the stock market by adapting to the financial market

24%



Robots which can make their own decisions and can be used by the armed forces

25%



Robots that can adapt to the home environment for example helping to care for older people

32%



Computer programmes which show you websites or advertisements based on your web browsing habits

69%



Computers that can recognise speech and answer questions

72%



Facial recognition computers which can learn identities through CCTV video to catch criminals

73%



Driverless vehicles which can adapt to road and traffic conditions

80%

Question: For each, which have you seen/ heard anything about this technology?
Base: Total sample (n=1038)

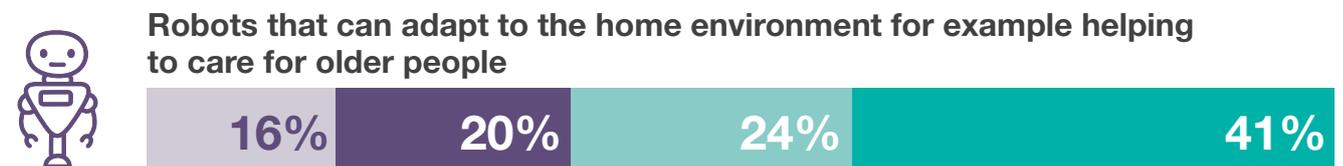
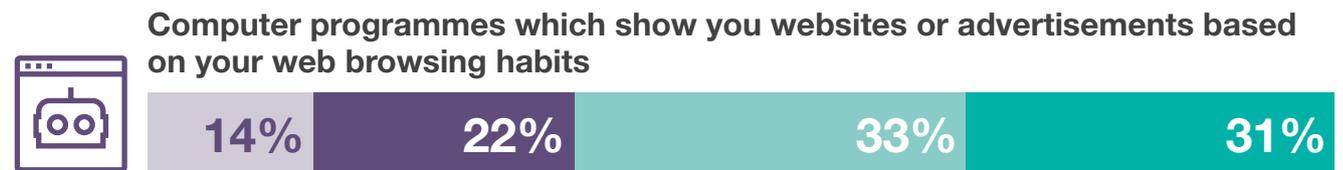
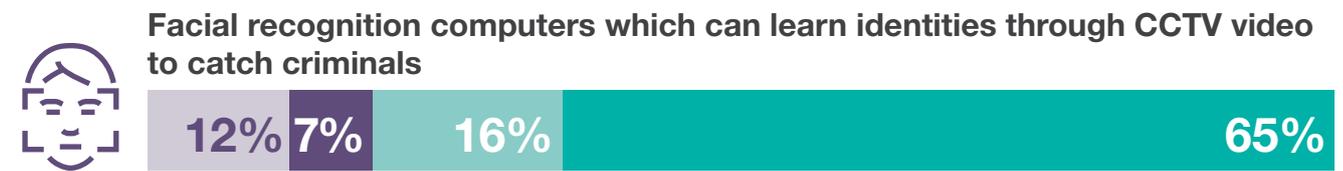
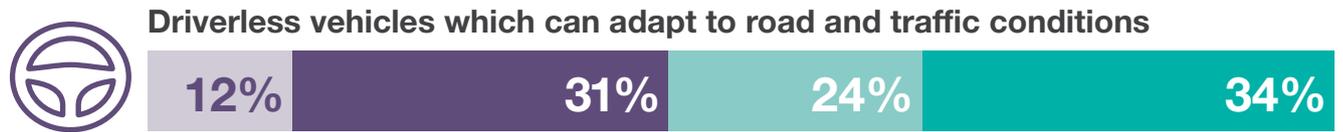
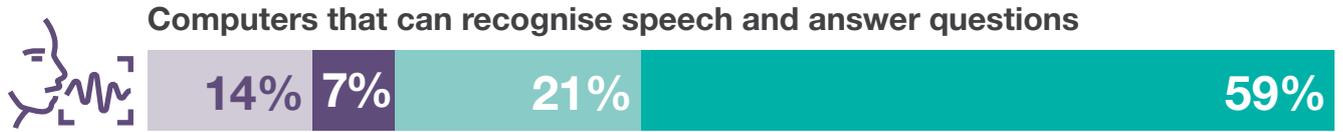
FOR CERTAIN APPLICATIONS OF AI, PEOPLE ARE NOT CONVINCED THAT THE BENEFITS OUTWEIGH THE RISKS — ESPECIALLY WHEN IT'S ABOUT RELINQUISHING CONTROL OF HUMAN LIFE AND THEIR MONEY

The research explored people's perceptions of the risks and benefits of different types of AI applications. The findings reveal that Australians believe there to be significant risk associated with the use of some forms of AI, and that the risks of these outweigh the benefits, particularly when it means potentially losing control over human life and their money.

Of all the AI applications presented to respondents, **facial recognition computers which can learn identities through CCTV video to catch criminals and computers that can recognise speech and answer questions** were considered to be the most benign, with fewer than 10% believing that the risks are slightly or much bigger than the benefits.

The AI applications perceived risky were those where human life could be put at risk — **driverless vehicles** (31% believe the risks are slightly or much bigger than the benefits) and **robots which can make their own decisions and can be used by the armed forces** (42% believe the risks are slightly or much bigger than the benefits). Meanwhile, leaving their money in the hands of AI was also deemed to be risky — 34% considered the risks of using **AI in making investments in the stock market** to be slightly or much bigger than the benefits.

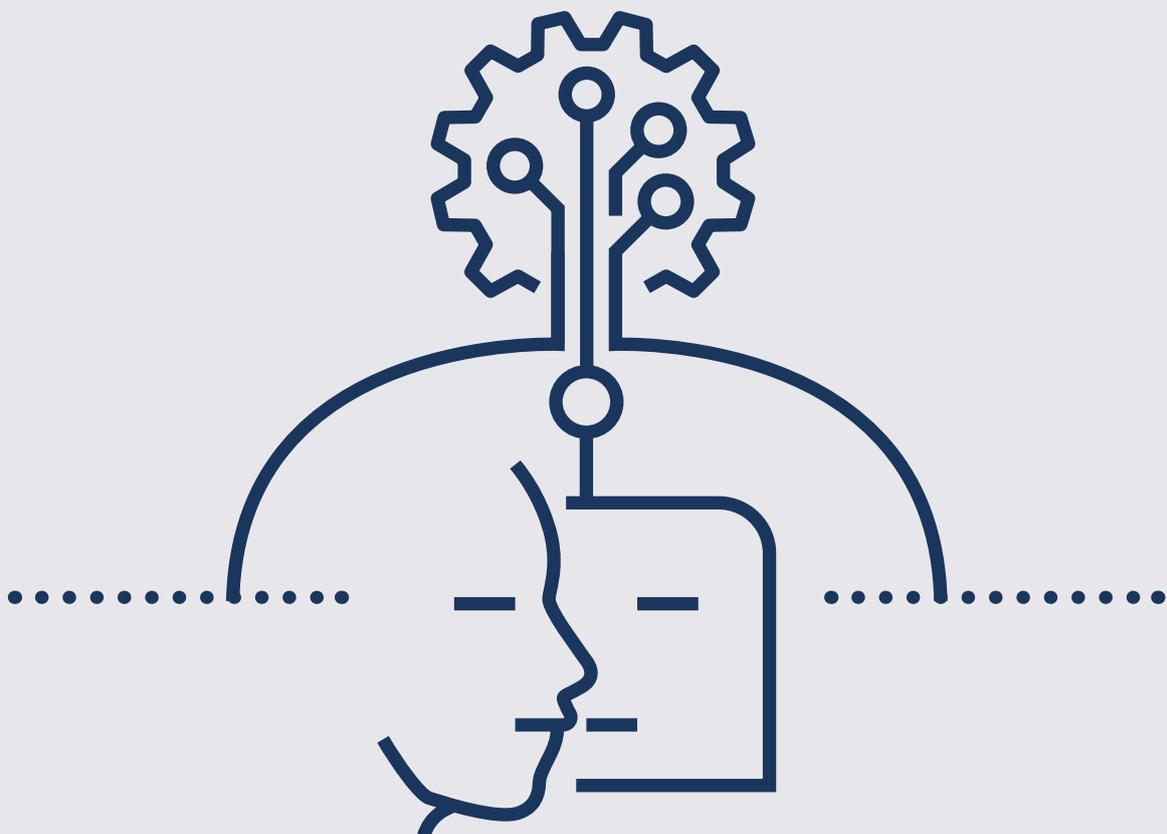
PERCIEVED RISKS AND BENEFITS



Question: Which of the following is closest to your view about the balance of risks and benefits with machines doing these tasks?
 Base: Total sample (n=1038). Top 2 boxes, bottom 2 boxes. Totals may not add up due to rounding.

PART 2

How do Australian consumers
feel about AI and its
potential role in the future?



AUSTRALIANS ARE CONFLICTED WHEN IT COMES TO HOW THEY FEEL ABOUT TECHNOLOGY IN GENERAL

Australians may be ravenous consumers of technology but the research findings reveal that they are conflicted when it comes to how they feel about technology and the role it plays in their lives and the world in general. Will technology be society's saviour or its undoing? Will it become something to be feared in the future or will it solve the currently unsolvable?

They're not quite sure. On the one hand, just under half (**48%**) **feel optimistic about the future of technology** and the same proportion (**48%**) **are looking to technology to help solve some of the world's biggest problems in the future**. However, at the same time, very similar proportions are fearful of the impact of technology: **46% are afraid of technology taking over in the future** and just over half (**54%**) **believe that we already rely too much on technology**.



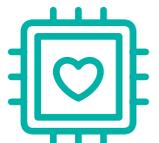
54%

"We already rely too much on technology"



48%

"I feel optimistic about the future of technology"



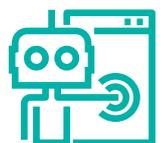
46%

"I'm afraid of technology taking over in the future"



48%

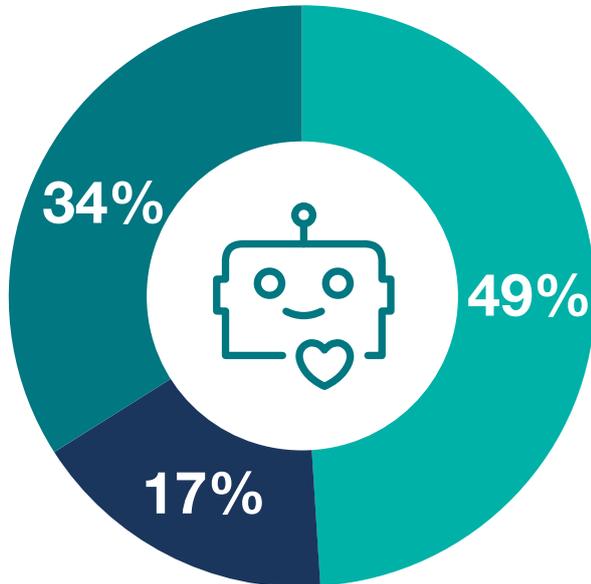
"I believe in the future technology will help solve some of the world's biggest problems"



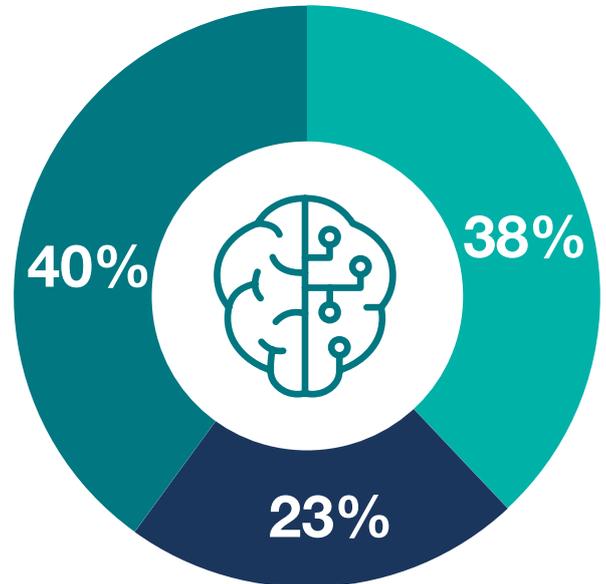
SOME OF US ARE OPTIMISTIC ABOUT AI, WHILE MANY JUST DON'T KNOW WHAT TO THINK

It's a similar picture when it comes to broad perceptions around AI, which are similarly divided. Just under half (**49%**) believe that AI could make the world a better place if used correctly, while **38%** believe we need Artificial Intelligence to take us to the next level of progress. Interestingly, the division here isn't so much between those who agree and disagree, but between those that have an opinion and those who just don't know what to think (see chart below).

“Artificial Intelligence and robots, if used correctly, could make the world a better place”



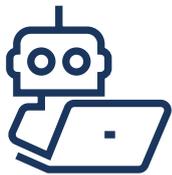
“We need Artificial Intelligence to take us to the next level of technological progress”



PEOPLE ARE MOST AFRAID OF ROBOTS TAKING JOBS

Of all the potential impacts of AI, at present, its power to reshape the labour market of the future is driving much of the uncertainty and anxiety. A majority have resigned themselves to a future where AI does the work of humans: seven in 10 (**70%**) **Australians believe that many jobs in the future will be done by robots** and many believe that this won't be a good thing: **6 in 10 (62%) believe that using robots and Artificial Intelligence to replace human workers is bad for society**.

Interestingly however, when it comes to AI's potential impact on them personally in the future, a different picture emerges: **only about 3 in 10 (32%) are worried about their own jobs eventually be replaced by robots and Artificial Intelligence**.

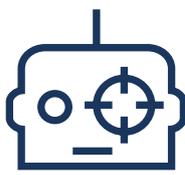


70%

“In the future many jobs will be done by robots and Artificial Intelligence”



Disagree: **8%**
Neither agree or disagree: **22%**



62%

“Using robots and Artificial Intelligence to replace human workers is bad for society”



Disagree: **12%**
Neither agree or disagree: **26%**



32%

“I worry my job will eventually be replaced by robots and Artificial Intelligence”



Disagree: **36%**
Neither agree or disagree: **33%**

AUSTRALIANS ARE OPEN TO AI IF IT MAKES LIFE EASIER BUT FEW ARE COMFORTABLE WITH THE IDEA OF INTERACTING WITH ROBOTS

While 4 in 10 (41%) say they are happy to use products and services that use Artificial Intelligence if it makes their life easier, the majority don't like the idea of AI being used in customer service. More than 6 in 10 (66%) **don't like the idea of a robot being used by companies to communicate with their customers**, while around 6 in 10 (59%) **don't like the idea of talking to a robot to help them make a purchase**.



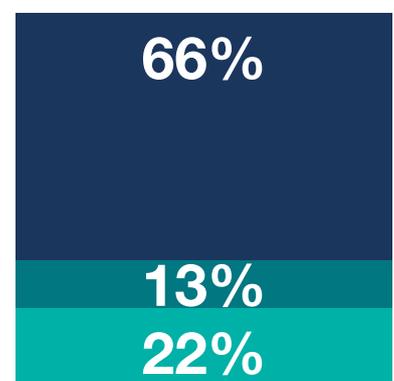
"I am happy to use products and services that use Artificial Intelligence if it makes my life easier"



"I do not like the idea of talking to a robot to help me make a purchase"



"I do not like the idea of a robot being used by companies to communicate with their customers"



Agree

Neither agree nor disagree

Disagree

ABOUT THE AUTHORS

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Kirsten has 20 years of experience working in research and media measurement. Kirsten is a QPMR practitioner and a member of AMSRS, with qualitative and quantitative experience across brand, service and product tracking projects, product development, media creative evaluation (print, radio, outdoor, online and television) as well as print, digital audience, online communities and social media measurement. She holds a Bachelor's degree from The Australian National University and a Masters of Management from the Macquarie Graduate School of Management in Sydney. Kirsten has experience working with new technologies and social media measurement across a range of industries such as automotive, banking, financial services, not for profit, government, FMCG, CPG, entertainment, media and property development.

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ABOUT IPSOS AUSTRALIA AND NEW ZEALAND

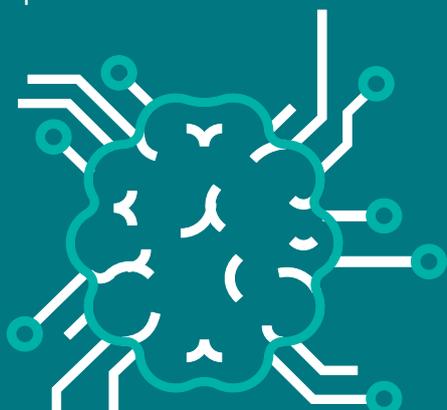
Ipsos is an independent, global market and social research company with offices in 87 countries.

In Australia Ipsos has offices in Sydney, Melbourne, Brisbane and Perth, as well as Auckland and Wellington in New Zealand.

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GAME CHANGERS

