

HUMAN RIGHTS AND TECHNOLOGY ISSUES PAPER

LEXISNEXIS RESPONSE

November 2018

Disclaimer

LexisNexis retains copyright in the form and content of this article. Do not distribute for commercial purposes. The views and opinions expressed in this article are based on certain parameters, assumptions and materials mentioned herein. LexisNexis cannot guarantee that the content of this article is accurate and complete in all respects, and LexisNexis excludes all liability in regards to the same.

LexisNexis and the Knowledge Burst logo are registered trademarks of RELX Inc. © 2018 Reed International Books Australia Pty Ltd trading as LexisNexis. All rights reserved.

Overview

LexisNexis very much appreciates the opportunity to make a submission in response to the issues paper produced by the Australian Human Rights Commission. The process to gather iterative responses over an 18 month period, from as many different groups as possible, allows our society the best chance to achieve practical outcomes to protect and promote human rights. Our submission also follows this theme, that collaboration between government, industry, civil society groups, as well as the general population, will create optimum solutions to the questions raised in the paper and those yet to be identified during this period of rapid technological change.

Our mission is to advance the Rule of Law and as providers of legal information, we believe strongly in adherence to legal frameworks where they uphold these principles. The responses below contain some suggestions on how existing Australian legislation can be reinforced and developed, through understanding the way it is being applied and interpreted currently, as well as looking at international examples that may provide insight into future developments. We would like to highlight one suggestion relating to discrimination law; namely, that discrimination in fact should be recognised without the need to demonstrate intent. Without this, we suggest that the law is unable to deal with algorithmic bias.

As the industry partner for this significant project, we also believe it is important that organisations are able to understand the importance of acting beyond legal frameworks. Some examples of economic and societal benefits which have arisen when the private sector implements corporate social responsibility into their operational models are listed below. It is also our experience that compliance with regulatory obligations, or overarching human rights principles, is most likely to be achieved where the steps that need to be taken to do so are straightforward and clearly understood.

For these reasons, we believe that there is significant value in having a dedicated government body which can deliver educational programmes and provide tools to individuals and organisations as part of a co-regulatory approach, as well as provide ongoing policy advice to government on the ways changes in technology are impacting human rights.

Question 2

Noting that particular groups within the Australian community can experience new technology differently, what are the key issues regarding new technologies for these groups of people (such as children and young people; older people; women and girls; LGBTI people; people of culturally and linguistically diverse backgrounds; Aboriginal and Torres Strait Islander peoples)?

The AHRC Human Rights and Technology Issues Paper identifies issues relating to the way new technology is experienced by a number of communities.¹ For example, vulnerable groups such as low-income households, rural or regional areas, certain age groups, people with disabilities, and people of select backgrounds experience lower rates of digital inclusion. We hope that the following exploration of these issues with further examples and citations may assist in supporting the next stage of submissions.

The choice to invest in the development of new consumer technology is often a commercial one, aimed at catering for individuals with disposable income, or targeting the largest chunk of the addressable market. The result being that new technology tends to initially benefit only those who can afford it and members of the mainstream, entrenching the socioeconomic divide and excluding

minorities. However, the rate of change and a possible “trickle down” effect in relation to both the ongoing innovation of technology and its cost may mitigate this to some extent.²

If we acknowledge that technology instigates cultural and societal shifts, we must consider how the current and future rate of innovation may exacerbate existing inequality or potentially catalyse the formation of further fundamental chasms between social groups. These chasms may be along the lines of recognised existing divides (such as between genders, nations or socio-economic groups) or cause new and unforeseen divides to appear between previously homogenous groups.

When we contemplate *data as the new oil*,³ we must diagnose and recognise the positive correlation between access and inclusion. We know corporations that mine and refine data fastest have better chances of winning and becoming barons in their industries.

If the same is true of societies and private individuals, we must continually query how all the members of a heterogeneous population can be given equal opportunities, let alone ensure equitable treatment for groups that have a history of being socially marginalised.

Low income households⁴

Children in low income households have a much lower participation rate in new technologies, partly due to the home environment (eg lack of access to the internet, less device ownership)⁵ but also partly because of the lack of resources in low income community areas and public schools. Private schools can have “twice the level of resources per student”, reflected in “state-of-the-art science facilities”⁶. This presents a long term opportunity gap for lower-income students and educational inequality. Lack of childhood access to technology may dampen future prospects to participate in the study and development of new technologies. For example, youth with computer access were

² D Basulto, “Apple’s new strategy: Trickle-down innovation” *The Washington Post*, 11 September 2013, accessed 10 November 2018 https://www.washingtonpost.com/news/innovations/wp/2013/09/11/apples-new-strategy-trickle-down-innovation/?noredirect=on&utm_term=.b4cdc6d9cdc8

³ Argument for the analogy: “The world’s most valuable resource is no longer oil, but data” *The Economist*, 6 May 2017, accessed 10 November 2018 <https://www.economist.com/leaders/2017/05/06/the-worlds-most-valuable-resource-is-no-longer-oil-but-data>

⁴ Low income households refers to the 18% of households in the lowest equivalised disposable household income quintile, adjusted to exclude the first and second percentiles. The mean disposable household income of low income households was \$421 per week or \$21,892 per year in 2015–16. Australian Bureau of Statistics, “Household Income and Wealth, Australia, 2015-16”, September 2017, accessed 11 October 2018, <http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/6523.0~2015-16~Main%20Features~Characteristics%20of%20Low,%20Middle%20and%20High%20Wealth%20Households~10>

⁵ “Australia’s digital divide is not going away” *The Conversation*, March 2018, accessed 11 October 2018 <https://theconversation.com/australias-digital-divide-is-not-going-away-91834>

R Womersley, “Laptops and internet are essential parts of education, yet not everyone can afford this technology” South Australian Council of Social Service, January 2018, accessed 11 October 2018 <https://www.sacoss.org.au/laptops-and-internet-are-essential-parts-education-yet-not-everyone-can-afford-technology>

⁶ “School choice: no great love for the private path, but parents follow the money” *The Conversation*, April 2015, accessed 11 October 2018, <https://theconversation.com/school-choice-no-great-love-for-the-private-path-but-parents-follow-the-money-40376>

able to create more complex projects and coding programs only available on computers not mobiles or tablets.⁷

A federally funded laptop program for year 9 to 12 students was shortlived from 2008-2013 with mounting hardware, maintenance and infrastructure costs.⁸ Since then, schemes have been State-based, for example, in NSW individual schools have the option to implement a “Bring Your Own Device” (BYOD) strategy⁹ while in South Australia, all year 10 students will receive a laptop starting in 2019.¹⁰ In BYOD strategies, high school students can bring their own device or can lease approved ones – this puts further pressure on lower income households and has the potential to create a digital divide between students who aren’t able to afford new technologies and their peers.

The Australian curriculum provides a digital technologies scope from Kindergarten until year 10. By the end of primary school students will have had opportunities to create a range of digital solutions, such as games and animations, and will have learned about the sustainability of information systems. By the end of year 10, students have had opportunities to analyse problems and design, implement digital solutions, such as database-driven websites and artificial intelligence engines and simulations. They would also have been introduced to the complexities surrounding access to, and the security and privacy of, data of various types.¹¹ In the blooming world of new technologies and social media, the government needs to extend this curriculum to include teaching an ethical framework on technologies.

Likewise, low income older aged groups (income < \$40,000, 65 and over) are more likely to be non-users of technology in comparison to those with higher income.¹² Below we will discuss further the digital divide and impact on aged populations.

Aged populations

Digital literacy among older Australians is crucial. In 2016, the Australian Government invested \$50 million towards assisting senior Australians with the skills and knowledge to improve their safety online and allow them to participate in the modern digital economy. Be Connected launched on 3

⁷“Many low-income students use only their phone to get online. What are they missing?” *The Conversation* February 2018, accessed 11 October 2018 <http://theconversation.com/many-low-income-students-use-only-their-phone-to-get-online-what-are-they-missing-54213>

⁸ R Barrett, “Government set to end school laptops scheme” ABC News March 2013, accessed 11 October 2018, <http://www.abc.net.au/news/2013-02-02/federal-government-set-to-end-school-laptops-scheme/4497572>

⁹ NSW Government Education and Communities, “Student Bring Your Own Device (BYOD) Guidelines” accessed 11 October 2018, https://education.nsw.gov.au/policy-library/associated-documents/Student_BYOD_Guidelines.doc

¹⁰ South Australia Department for Education, “Laptops for senior school students” January 2018, accessed 11 October 2018, <https://www.education.sa.gov.au/department/media-centre/news/laptops-senior-school-students>

¹¹ Australian Curriculum, Digital Technologies, accessed 11 October 2018, <https://www.australiancurriculum.edu.au/f-10-curriculum/technologies/digital-technologies/>

¹² “Digital lives of older Australians” the ACMA, 4 August 2016, accessed 10 November 2018 <https://www.acma.gov.au/theACMA/engage-blogs/engage-blogs/Research-snapshots/Digital-lives-of-older-Australians>

October 2017 and is delivering a range of resources specifically designed to support these Australians.¹³

The tools and classes offered on the Be Connected site¹⁴ are a response to the varying levels of skillsets in this community. Digital services provide consumers with choice and flexibility, but knowledge of the current tech landscape also helps keep people safe. From maintaining safe passwords to paying online and avoiding scams, digital literacy can reduce one's susceptibility to criminal affronts.

So much of life can be lived online. From keeping in touch with family and friends to joining new communities, technology can bring people together. A study published in 2015¹⁵ noted ease of use as essential in bridging the divide for older people without formal computer skills.

Older Australians are active online, and using platforms more varied than email (eg Skype and FaceTime), but their level of uptake is lower in comparison to internet users between the ages of 18 and 65.¹⁶ This is encouraging, especially as businesses, medical practitioners and governmental services are increasingly accessed online.

Many benefits are yet to be adopted more widely. The Internet of Things can support quality of life issues for older people. For example, digital technology can enable "aging in place."¹⁷ As the number of elderly people is increasing across the globe, there are growing concerns about how to support this population. Most healthcare systems are designed for acute management of disease, as opposed to providing long-term management of chronic conditions while supporting patients' quality of life. Aging in place provides resources for older adults to remain in their own homes without sacrificing safety. Systems of care built around digital health technologies (as opposed to institutionalised care facilities) can optimise health outcomes, prolong independence, and lower healthcare costs, especially given the challenges of projected nursing shortages.¹⁸

Digital inclusion is the first step – awareness and educational support are essential for aging populations to stay informed and part of the cultural conversation. Digital innovations like smart home technologies can enable people to safely maintain their activities of daily living and personal independence for years and decades longer.

Rural and Regional Communities

¹³ "Be Connected – improving digital literacy for older Australians" Department of Social Services, updated 18 January 2018, accessed 10 November 2018 <https://www.dss.gov.au/seniors/be-connected-improving-digital-literacy-for-older-australians>

¹⁴ <https://beconnected.esafety.gov.au/>

¹⁵ H S Tsai, R Shillair, S R Cotten, V Winstead & E Yost (2015) "Getting Grandma Online: Are Tablets the Answer for Increasing Digital Inclusion for Older Adults in the US?" *Educational Gerontology*, 41:10, 695-709, DOI: 10.1080/03601277.2015.1048165
<https://www.tandfonline.com/doi/full/10.1080/03601277.2015.1048165?src=recsys>

¹⁶ "Digital lives of older Australians", *ibid.*

¹⁷ K Kim, S S Gollamudra, S Steinhubl, "Digital technology to enable aging in place" *Experimental Gerontology* Volume 88, February 2017, Pages 25-31
<https://www.sciencedirect.com/science/article/pii/S053155651630376X>

¹⁸ "Australia's Future Health Workforce – Nurses" Health Workforce Australia, August 2014, accessed 14 October 2018
[https://www.health.gov.au/internet/main/publishing.nsf/Content/34AA7E6FDB8C16AACA257D9500112F25/\\$File/AFHW%20-%20Nurses%20detailed%20report.pdf](https://www.health.gov.au/internet/main/publishing.nsf/Content/34AA7E6FDB8C16AACA257D9500112F25/$File/AFHW%20-%20Nurses%20detailed%20report.pdf)

Despite lower access to internet than metropolitan counterparts,¹⁹ there are real opportunities for new technologies to enhance rural enterprises like farming. For example, in the 2018 budget, \$260m+ was allocated towards new satellite technology to improve GPS applications such as smart farming.²⁰ Other smart farming initiatives could include robotic labour, driverless tractors, geomapping precision seeding, automatic irrigation, drone imaging to monitor crop health, soil quality and plan planting.²¹

Of particular relevance to regional workers in agriculture, fisheries and forestry is the impact of increasing automation that comes with new technologies. Supporting and developing a future generation of regional workers is key through examining issues like the impact of different occupations from automation technologies, workforce development to keep abreast of new skills and technologies²² as well as migrant workers who make up a substantial part of the rural workforce. The Government can play a major part in supporting and funding these initiatives, as it did in recent years for the automotive industry.

Lessons can be learnt from the recent although prolonged decline of the Australian auto industry such as worker migration interstate and to larger cities, drop in automotive jobs being taken up in healthcare, construction and education and a ripple effect on the wider community and related industries.²³ The Australian government supported automotive manufacturing workers and supply chains through this transition period for a number of years, such as the Skills and Training Initiative for automotive workers to transition to new jobs, self-employment opportunities or retirement.²⁴ In addition, the Government has contributed \$20 million to the Automotive Diversification Programme (supply chain firms enter new markets) and the \$90 million Next Generation Manufacturing Investment Programme (accelerating private sector investment in high value manufacturing sectors in Victoria and South Australia).²⁵

People with disabilities

¹⁹ "Wellbeing, Resilience And Liveability In Regional Australia" University of Canberra, June 2016, accessed 11 October 2018, <https://www.canberra.edu.au/about-uc/media/media-releases/2016/june/uc-study-finds-regional-australians-feeling-good,-but-lack-connections>

²⁰ K Chappell, M Foley, "Federal Budget 2018 snapshot: What it means for farmers and rural and regional Australia" *The Herald* May 2018, accessed 11 October 2018 <https://www.theherald.com.au/story/5389208/budget-2018-what-it-means-for-farmers-and-rural-and-regional-australia/>

²¹ M Brown, "Smart Farming—Automated and Connected Agriculture" Engineering.com, March 2018, accessed 11 October 2018, <https://www.engineering.com/DesignerEdge/DesignerEdgeArticles/ArticleID/16653/Smart-FarmingAutomated-and-Connected-Agriculture.aspx>

²² "Riding the Next Wave of Automation in Rural Australia" Regional Australia Institute, June 2018, accessed 11 October 2018, http://www.regionalaustralia.org.au/home/wp-content/uploads/2018/06/RAI_Riding-the-next-wave-of-automation-in-rural-Australia.pdf

²³ Z Ma, "Australia Marks the Death of Its Auto Industry" Bloomberg October 2017, accessed 11 October 2018, <https://www.bloomberg.com/news/articles/2017-10-19/death-of-australian-car-making-leaves-chasm-in-blue-collar-towns>

²⁴ "Assistance for Automotive Manufacturing Workers" Australian Government, accessed 11 October 2018, https://whatsnext.jobs.gov.au/sites/whatsnext/files/WhatsNext_Factsheet_English_1.pdf

²⁵ "Australian Government support to Australian automotive industry" Ministers for the Department of Industry, Innovation and Science, February 2017, accessed 11 October 2018 <https://www.minister.industry.gov.au/ministers/sinodinos/media-releases/australian-government-support-australian-automotive-industry>

Australia has joined other countries in a global effort to promote equal and active participation of all people with disability, with the ratification of the United Nations Convention on the Rights of People with Disabilities in 2008. In relation to education, the Convention states that persons with disability should be guaranteed the right to inclusive education at all levels, regardless of age, without discrimination and on the basis of equal opportunity. Australia's commitment is also reflected in the Disability Discrimination Act 1992 and in the establishment of the Disability Standards for Education 2005 (the Standards) that clarify and elaborate on legal obligations associated with inclusive education. All education providers are required to be aware of and implement the Standards to enable students with disability to receive an education equal to that of any other student.²⁶

But are the same measures taken when students with disabilities finish school and advance into working life? Is there a noteworthy disconnect between the duty of care of governmental educational institutions' and commercial organisations' responsibilities when it comes to attempting inclusion of "disabled" but fully suitable prospects to become valuable employees based on individual skill-set and organisational needs?

LexisNexis has transitioned from publisher to technology company, but arguably all companies are now tech companies. Most industries – from farming and manufacturing to publishing and consumer experience-driven businesses – rely heavily on technological innovations and optimisation to compete in their markets. From internal platforms essential to onboarding and career success to external websites and eCommerce solutions, participation in the economy increasingly requires technical skills. Mastering these skills necessarily starts with simple access (ie access to and use of the technology) but is more likely to require the ability to meaningfully engage with the technology.

The opportunities presented by technology are many but as it becomes more pervasive, the challenges will grow if steps are not deliberately taken to foster inclusive design. External market forces alone will not be enough; as the rate of innovation increases, speed to market will be a stronger incentive to define the minimum viable product (MVP) as a product for the mainstream. Diversity rates amongst students and skilled workers in fields like data science and web development remain low, so representation of minorities on the product teams designing this technology is not enough to broaden MVP scope from within.²⁷

The Australian Research Alliance for Children and Youth stated:

"An increasing number of employment, educational, communication, entertainment, civic participation, and government functions are moving either primarily or exclusively online. High levels of inaccessibility on the Web and Internet-enabled mobile technologies are threatening to exclude people who experience forms of disabilities from the information society. Unless a policy approach toward Internet accessibility for people with disabilities is reviewed and re-imagined to approach current technological and social realities - people with disabilities will have to deal with challenges related to every core element of society today."²⁸

²⁶ "Inclusive Education for Students with Disability: A review of the best evidence in relation to theory and practice" Australian Research Alliance for Children and Youth, 15 July 2013, accessed 10 November 2018 https://www.aracy.org.au/publications-resources/command/download_file/id/246/filename/Inclusive_education_for_students_with_disability_-_A_review_of_the_best_evidence_in_relation_to_theory_and_practice.pdf

²⁷ Priceonomics, "The Data Science Diversity Gap" Forbes, 28 Sept 2017, accessed 14 October 2018, <https://www.forbes.com/sites/priceonomics/2017/09/28/the-data-science-diversity-gap/#4cfd481c5f58>

²⁸ "People with Disabilities and Technology Challenges" Disabled World, 2 February 2013, accessed 10 November 2018 <https://www.disabled-world.com/disability/accessibility/websitedesign/tech-challenge.php>

Participation in not just the economy, but civil society generally, is at stake.

The number of people with a disability is expected to increase. An example from the United States, notes that as the Baby Boomer Generation ages, “[t]he number of people who experience a form of disability ... is expected to rapidly increase ... because 53% of people over the age of 75 have a form of disability”.²⁹ It is important to recognise how particular groups are far from stagnant. Adeptly tracking changes in sub-segment and individual user needs is a difficult task even when designing for the mainstream – how can commercial organisations use technology to iterate quickly to address the needs of their users?

This is of prime importance from a legal perspective because almost “40 per cent of all complaints made to the Australian Human Rights Commission (AHRC) in 2016-17 were lodged under the Disability Discrimination Act. A third of those related to goods and services, many of them new technology.”³⁰

One of the major ways that technologies further the divide between different population groups in a crucial way is the access to information that technology brings. For accessibility of information, coding a website or platform to modern standards should mean that users with disabilities are able to access the content as easily as a normal sighted user.³¹ Some UX principles apply to improve the usability of sites for all audience members, of all abilities. For example, best practice guidelines for online forms state that forms should be well laid out in a single column, with semantic groupings, while longer forms should be segmented and signposted so that the user knows how far they have to go. It should also be clear to the user which fields are mandatory and which aren’t, and labels and help text should appear outside fields to remain visible to the user.³² However, despite the universal applicability of these guidelines, badly designed forms remain ubiquitous; features that have no direct discernible benefit for the mainstream (and therefore conversion rates) are even less likely to be implemented.

Question 3

How should Australian law protect human rights in the development, use and application of new technologies? In particular:

a) What gaps, if any, are there in this area of Australian law?

The state of Australian law in relation to the use of new technologies has been characterised as everything from woefully underdeveloped to promising and proportionate to our global standing.³³ Our view is more closely aligned to the latter; our regulation of AI and machine-learning, considering

²⁹ “People with Disabilities and Technology Challenges” Disabled World, 2 February 2013, accessed 29 November 2018 <https://www.disabled-world.com/disability/accessibility/websitedesign/tech-challenge.php>

³⁰ G Nott, “People with disability both liberated and left behind by today’s tech” Computer World, 3 August 2018, accessed 10 November 2018 <https://www.computerworld.com.au/article/644728/people-disability-both-liberated-left-behind-by-today-tech/>

³¹ For example, providing a toggle for users with a visual impairment accessing the site to use a screen reader.

³² P Stanley, “Designing for accessibility is not that hard” UX Collective, 28 June 2018, accessed 14 October 2018, <https://uxdesign.cc/designing-for-accessibility-is-not-that-hard-c04cc4779d94>; D Kovalenko, “16 Tips That Will Improve Any Online Form” UX Planet, 27 March 2017, accessed 14 October 2018, <https://uxplanet.org/the-18-must-do-principles-in-the-form-design-fe89d0127c92>

³³ B Head, “Law is falling far behind the tech” InnovationAus, 27 November 2017, accessed 11 October 2018, www.innovationaus.com/2017/11/Law-is-falling-far-behind-the-tech

the extent of actual deployment, is not currently at risk of leaving fundamental human rights significantly unprotected.

However, there are areas where development and deployment stand to outpace the regulatory frameworks intended to address them. We have identified three as being of most imminent concern.

Autonomous vehicle testing

As of October 2018, three Australian states have enacted legislation to facilitate trials of automated vehicles on their roads.³⁴

Naturally, one of the core objectives of these amendments was to adapt road laws to accommodate the reality that, during a trial, a natural person will not be fully in control of the trial vehicle at all times. The regulatory frameworks seem to be designed to be accommodating and incremental. But one question that the frameworks leave open to an uncomfortable degree of subjectivity is the critical issue of who exactly is the “person in charge of an automated vehicle” during a trial.

For example, in NSW, although a vehicle supervisor must be in the trial vehicle and in a position to take control of it at all times,³⁵ it is a matter of ministerial discretion as to whether that supervisor, or some other person, or no one at all, is construed to be the “driver” or “person in charge” of the vehicle.³⁶ The Minister for Roads must, in exercising this discretion, have regard to the level of automation of the vehicle.³⁷

Whether a particular person, or anyone at all, is in charge of a vehicle is a critical issue in assigning legal responsibility. It is therefore submitted that this is a very high degree of discretionary power to be exercised by a person who is unlikely to be a trained professional in automated vehicle technology. Such lack of ministerial expertise will necessarily result in reliance on advice from experts many of whom, in the absence of a disinterested regulatory body, will be furnished by, or aligned with, the various interested parties. This presents significant risk to the form and substance of the decision reached. As the national framework for trials of automated vehicles rolls out, and particularly as the industry moves steadily towards commercialisation of this technology, federal and state legislatures need to consider a more objective process or standard for determining the person in charge of the vehicle.

Automated government decisions

There are currently 29 pieces of Australian Federal legislation, spanning everything from social security and taxation to migration and biosecurity, that explicitly enable government officials to let computer programs make decisions on their behalf.³⁸

³⁴ NSW: Transport Legislation Amendment (Automated Vehicle Trials and Innovation) Act 2017 (NSW); Victoria: Road Safety Amendment (Automated Vehicles) Act 2018 (Vic); South Australia: Motor Vehicles (Trials of Automotive Technologies) Amendment Act 2016 (SA).

³⁵ Road Transport Act 2013 (NSW) s 148Q.

³⁶ Road Transport Act 2013 (NSW) s 148S(1).

³⁷ Road Transport Act 2013 (NSW) s 148S(3).

³⁸ See, for example, Social Security (Administration) Act 1999 (Cth) s 6A. S Elvery, “How algorithms make important government decisions – and how that affects you” ABC News, 21 July 2017, accessed 11 October 2018, <http://www.abc.net.au/news/2017-07-21/algorithms-can-make-decisions-on-behalf-of-federal-ministers/8704858>.

Computer automation represents a massive efficiency gain, and in most cases, government decisions made by computers are extremely productive and uncontroversial. However, an incident such as the 2017 Centrelink “robodebt” saga highlights the significant distress that can befall individuals when an automated decision-making algorithm is deployed. It is these exceptional cases that bring to light a shortfall in Australian law: although government officials can let computer programs make their decisions, they are not obligated to tell the people affected by those decisions that they have done so.

Legislative provisions allowing computer-automated decisions take the approach of simply supplanting the Minister’s “decision” with the algorithmic function of the computer. The advantage to this approach is that there can be no shirking of ministerial responsibility. A potential disadvantage, however, is the resulting legal fiction. When a computer makes a decision or exercises a power on behalf of a Minister, the reality is that a “decision”, as we naturally understand it, was not necessarily made in relation to that specific person or situation. A variety of decisions have been made during the development of the technology and these decisions have consequences for how the algorithm will respond under specific circumstances in future. Those development decisions are typically based on the best way to program rules or test output, or about the nature and quality of the training data. Later, a decision has been made in relation to the use and application of the technology by the Minister. Arguably, therefore, the output of the algorithm in the specific circumstances is at best a finding of fact relating to how well these circumstances match prior circumstances that the algorithm has been trained to recognise. The Minister’s “decision” is to use the technology to make such a finding of fact and then to apply that finding as part of a larger decision, or to allow that finding to dictate the Minister’s response in the specific circumstance.

The circumstances in which this distinction would become a critical factor in administering justice to any one individual are, for now, narrow. The relevant Minister retains full responsibility, and currently any appeal of a government decision made by a computer will ultimately be answered by a person. However, obfuscating the loci of the various decisions that have led to how any one applicant has been dealt with may cause future legal confusion and prevent the recognition and remedy of current problems. Concentrating on how the individual’s application has fared, instead of on the choices that may have adversely impacted a class of applicants, delays detection of the effects of algorithms like COMPAS.

A lack of oversight, particularly while the technology is in its infancy, raises the issue of the harm that can be done in the first instance by an error which is not caught by human review or sufficiently rigorous QA and testing. If a person receives a letter from Centrelink stating that they must pay a large amount of money when they in fact do not, a degree of harm results that should not be discounted. If it is then revealed that a computer, not a government official, made the debt assessment, and that if the decision had *not* been delegated to a computer the harm would most likely not have occurred, the individual has a legitimate grievance: a government official was legislatively obligated to make a *decision about them*; that did not happen and harm resulted.

The solution is not for government departments to stop using computer algorithms. Increased efficiency benefits all stakeholders; delays in decision-making may themselves undermine natural justice and should be mitigated where this does not impinge on procedural fairness generally.³⁹

³⁹ See, for example the right to a trial without undue delay which is enshrined in Charter of Human Rights & Responsibilities Act 2006 (Vic) s 25; Human Rights Act 2004 (ACT) s 22. Note that in Australian under common law this right is not considered separate from the general right to a fair trial: *Jago v District Court of NSW* (1989) 168 CLR 23; 87 ALR 577.

Instead, our recommendations are threefold, and relate to any computer program which contributes a significant data point as input to a decision later made by a Minister or staff, or which is used to substantially reach or recommend a decision made under the Minister's power:

- Redraft the legislation empowering Ministers and staff to delegate decision-making to computer programs. The legislation should acknowledge the reality of how these programs are developed, implemented and used. The delegating authority should remain responsible for the impact on the individual subjects of each "decision" because the choice has been to implement and use a program with certain parameters, which resulted in the relevant "decision" and its impact on the subject.
- Require oversight and analysis of the program(s) involved in making or contributing to Ministerial decisions. Any computer program used to reach a decision, or determine a data point, that a human would otherwise have reached or determined should be subject to oversight and periodic performance review on a range of parameters, including but not limited to efficiency and accuracy. Methods would need to vary depending on the nature and purpose of the program but data sampling and trend analysis with required reporting mechanisms would allow us to measure whether the programs were staying in step with evolving community perspectives.
- Inform any person who is a subject of a decision reached by a program, or a decision significantly influenced by a data point contributed by a program, of the manner in which their matter has been processed by government. Only revealing the role of technology after something has gone wrong, as occurred in the robodebt incident, is insufficient; subjects should be informed from the outset.

Privacy and multinational corporations

Technology facilitates communication, consumer transactions and government services with an ease and efficiency that for many technology-literate Australians is often too appealing to pass up. What these tech-enabled functions have in common, however, is that they all involve the handing up of sensitive personal information. Using technology in this way has become so commonplace that many users impart their personal information without a second thought. In those circumstances, the regulation of informed consent becomes quite a vexed issue.

In the wake of the Facebook/Cambridge Analytica scandal that made headlines in March 2018, the Australian Information Commissioner opened a formal investigation into Facebook in light of revelations that the personal data of over 300,000 Australians may have been used without their consent.⁴⁰ The investigation will seek to determine whether Facebook, which is incorporated in Australia, breached Australian privacy laws.

The investigation should be welcomed, but the potential gaps in Australian privacy law will come into sharper focus when it comes to the issue of enforcement. Although Facebook operates in Australia, the user agreement for all Australian Facebook users is actually with Facebook Ireland Limited.⁴¹ Any enforcement of Australian privacy laws will therefore require the cooperation of Irish authorities.

⁴⁰"Investigation into Facebook opened" Office of the Australian Information Commissioner, 5 April 2018, accessed 11 October 2018, <https://www.oaic.gov.au/media-and-speeches/statements/facebook-and-cambridge-analytica>

⁴¹J Duke, "How Facebook Australia doesn't operate Facebook in Australia" *Sydney Morning Herald*, 23 March 2018, accessed 11 October 2018, <https://www.smh.com.au/business/companies/how-facebook-australia-doesn-t-operate-facebook-in-australia-20180323-p4z5ym.html>

Traversing national boundaries is not a new concept for Australian regulators, but the unprecedented challenge is maintaining consistent and effective regulatory schemes when the sheer volume of users is so high. Australian regulators will need to consider how they can simultaneously increase awareness of rights and obligations under Australian privacy laws, and also put in place legal infrastructure that can deliver access to justice for a massive pool of Australian users when there is a breach, especially of the requirement of informed consent.

b) What can we learn about the need for regulating new technologies, and the options for doing so, from international human rights law and the experiences of other countries?

Autonomous vehicle testing

Compared to international developments in the same space, Australia's national guidelines for testing autonomous vehicles are a promising start. The regulatory frameworks of countries that have invested much more heavily in autonomous vehicles can provide insight into how this particular technology can impact human rights in Australia, as well as allow us to consider our strategy to proactively address any potential negative outcomes.

Singapore, based on the understanding that autonomous vehicles will promote a "car-lite" society, has already put in place a legislative framework that allows the minister a five-year window to create and adapt the regulation of autonomous vehicles as necessary in response to new technology and the outcome of trials. This includes exempting the operators of driverless cars (those at levels 3, 4 or 5 of the J3016 standard) from the usual responsibility applicable to human drivers for any new trial.⁴²

A similar flexibility exists under NSW law, in the level of ministerial discretion regarding who or what is designated as the driver of an autonomous vehicle. This flexibility may be appropriate to facilitate investing in and trialling new technology, but Australian lawmakers will need to develop an objective test for the assignment of responsibility before the technology is commercialised.

The National Transport Commission's preferred approach is somewhat aligned to Singapore's in that the human passenger is not considered to be in control of the autonomous vehicle (at least when the autonomous system is engaged, for vehicles at levels 3 and 4 of the J3016 standard); so the primary safety duty sits with the automated driving system entity (ADSE).⁴³ At conditional and high levels of automation (ie at levels 3 and 4 of the J3016 standard), at least one human passenger would need to be fit to take control of the vehicle under relevant circumstances as the "fall back driver".⁴⁴

⁴² Note that a driverless car in this instance is a car that operates at levels 3, 4 or 5 on a scale established by SAE International's J3016 standard. New trials are those commencing after the change to the law (post 24 Aug 2017). P Keller, H Evans, F Henkel, B Li, "Autonomous vehicles: Pedal to the metal or slamming on the brakes? Worldwide regulation of autonomous vehicles" Norton Rose Fulbright, September 2018, accessed 11 October 2018 <https://sites-nortonrosefulbright.vuturevx.com/600/19231/landing-pages/autonomous-vehicles-vol3-september-2018.pdf>

⁴³ "Safety Assurance for Automated Driving System Consultation Regulation Impact Statement" National Transport Commission, May 2018, at page 32, accessed 14 October 2018, [http://www.ntc.gov.au/Media/Reports/\(C07CE648-0FE8-5EA2-56DF-11520D103320\).pdf](http://www.ntc.gov.au/Media/Reports/(C07CE648-0FE8-5EA2-56DF-11520D103320).pdf)

⁴⁴ P Keller et al "Autonomous vehicles: Pedal to the metal or slamming on the brakes? Worldwide regulation of autonomous vehicles" *ibid*.

Automated government decisions

With the bureaucratic infrastructure required to support its large population, the United States is unsurprisingly much more attuned to the risks and benefits of utilising algorithms in the administration of government. AI Now, an NGO with the objective of studying the societal impacts of AI, has developed a proposal for an algorithmic impact assessment (AIA) scheme for federal and state governments.⁴⁵ The AIA would ensure that governments deploying AI in their decision-making would be fully aware of, and accountable for, the implications of using AI. The scheme would also create transparency for the public and a pathway for voicing concerns when a government algorithm may be biased or inaccurate. Australian regulators should consider this model as a viable option for securing much-needed transparency and pre-emptive troubleshooting as its dependence on algorithms increases.

Privacy and multinational corporations

The European Union's General Data Protection Regulation (GDPR) is widely acknowledged as a significant development in the regulation of data protection across national boundaries and can be seen of value for Australian regulators in this regard. Two of its flagship reforms are:

- increased territorial scope, which specifically targets the evasive strategies of multinational corporations handling vast quantities of personal data, and
- strengthened regulation of consent. Under the GDPR, requests for consent must be "intelligible and easily accessible", a benchmark that will prompt a significant change in practice for many multinational corporations.⁴⁶

Whatever the findings of the Australian Information Commissioner in its investigation into the conduct of Facebook, it is unlikely that our existing privacy laws will deliver protections and remedies as robust as these. Australian regulators can look to the GDPR as a framework for how heightened protections for consumers can be effectively enshrined in law.

c) What principles should guide regulation in this area?

We have identified three principles that we consider to be paramount when regulating in this area:

Transparency

At LexisNexis, our mission is to advance the rule of law around the world. We believe that one of the pillars of the rule of law is transparency: the principle that knowledge and understanding of the law is a right of every person subject to it. In an environment where technology is increasingly being utilised in the administration of law and justice, the responsibility on our lawmakers and administrators to secure the transparency of law has never been higher.

Specifically, the principle of transparency requires that a person must be able to access, understand and engage with an executive or judicial decision made about them. As outlined above, the Australian government enlists the assistance of computer-automated technology in processing decisions ranging from social security to migration. However, the algorithms used to make those

⁴⁵ D Reisman et al, "Algorithmic impact assessments: A practical framework for public agency accountability" AI Now Institute, April 2018, accessed 11 October 2018, <https://ainowinstitute.org/aiareport2018.pdf>

⁴⁶ "What information must be given to individuals whose data is collected?" European Commission, accessed 11 October 2018 https://ec.europa.eu/info/law/law-topic/data-protection/reform/rules-business-and-organisations/principles-gdpr/what-information-must-be-given-individuals-whose-data-collected_en.

decisions will be beyond the understanding of most of the people subject to them. A person the subject of a decision cannot, in most cases, meaningfully engage with the decision-making process when it has been carried out by a computer algorithm.

To meet the requisite transparency to adhere to the rule of law, it could be mandatory for the Australian government to provide (upon request) an indication of the extent to which the use of algorithms contributed to the decision, as well as an explanation of the basic operational principles of that algorithm. The explanation would need to be in terms that a person with no specialised training in technology can understand.

Where the technology used has been designed and implemented by third parties for government organisations and government funded bodies, the procurement process should require the provision of the relevant explanatory statements. For many applications, these statements may be pre-created and amended with each technology release; for others the reporting requirements set out in the procurement process should incorporate the need for the technology to produce tailored explanations for each decision made.

The organisations which develop technology would need to ensure that the ability to create these reports was part of their initial design; for any technology currently in use, there may need to be an amnesty period as retrofitting this functionality may be neither quick nor inexpensive.

Another potential solution, which is not mutually exclusive, would be a requirement for any developers or users of technology to regularly audit algorithms. This could be done on a commercial basis⁴⁷ or be part of a support framework to protect human rights offered by a government agency.

Trust

Dr Alan Finkel has written persuasively on the importance of trust in the basic relationships that make our society function.⁴⁸ He argues that this principle is no less important when it comes to regulating the integration of AI into the fabric of our society. For the basic social contract to remain stable, AI must be regulated in such a way that allows us to trust it.

We already trust technology, possibly far more than we realise. But the threshold of trust becomes much higher when technology is granted a degree of autonomy; when we equip it to process information and act on the basis of its own intelligence, rather than as a mere extension of the user's. Trusting AI requires an assurance of a system of checks and balances that tempers the efficiency of intelligent computers with the sensitivity of a real person. We need to know that someone – not something – has thoroughly sounded out the ramifications of an intelligent computer's decisions before we surrender a function to it. There are existing legal principles which could be applied to ensure that any decision or outcome can be linked to a person: perpetrator-via-another; natural probable consequence; direct liability.⁴⁹

⁴⁷ ORCAA is an organisation that currently offers this service: <http://www.oneilrisk.com/>

⁴⁸ A Finkel, "AI rules might help us overcome mistrust of robots. Here's what Australia can do", ABC News, 18 May 2018, accessed 11 October 2018, <http://www.abc.net.au/news/2018-05-18/ai-artificial-intelligence-robots-home-trust-alan-finkel/9774850>.

⁴⁹ Hallevey, Prof Gabriel, The Criminal Liability of Artificial Intelligence Entities (February 15, 2010). Available at SSRN: <https://ssrn.com/abstract=1564096> or <http://dx.doi.org/10.2139/ssrn.1564096>

Incrementalism

Closely related to the principle of trust is the principle that human involvement in AI-assisted decisions and functions must be sustained for as long as practicable. Obviously one of the major benefits of technology is the reduction of onerous human involvement, and we need to embrace a future where “hands-on” involvement is gradually reduced. But the operative word there is *gradually*. Each progression in our technological capabilities must be carefully monitored until there is a proven track record of predictability and safety.

Question 4

In addition to legislation, how should the Australian Government, the private sector and others protect and promote human rights in the development of new technology?

Collaboration is key to ensuring proper protections and ongoing promotion of human rights in the development of new technology. This collaboration can be in the form of industry-based best practices or strategic partnerships between sectors. The critical factor to this collaboration revolves around bringing a multi-stakeholder approach to ensure alignment and consistency between those developing the technology, those purchasing and using the technology and those regulating the technology. Lack of alignment and clarity regarding risks will likely hinder investment and innovation.

A global report⁵⁰ on countries which have started to understand and take steps towards regulating AI has reached three conclusions: that the industry leaders will face challenges while integrating AI in highly regulated sectors; growing applications will change rules and regulations; and governments need to seek out support from society, academia and industry to be able to regulate AI technology effectively. This would be applicable to Australia in the attempt to regulate AI and protect human rights simultaneously.

An example of industry-based collaboration is the Telecommunications Industry Dialogue group. Founded in 2013, the Telecommunications Industry Dialogue (TID) sets out to “promote collaboration, engagement and transparency in the telecommunications sector.”⁵¹ The TID was founded by several key telecommunications vendors and operators including AT&T, Vodafone, Telenor Group and Nokia. This group develops resources, advice and standards under the context of the UN Guiding Principles on Business and Human Rights.

Their work involves annual industry assessments, general input and advice to the telecommunications industry along such lines as due diligence practices with regards to managing privacy and respecting freedom of expression through their technology and services.⁵²

In 2017, the TID group further developed their work and joined the Global Network Initiative which aimed to broaden collaboration, by looping in NGOs and academics.

Promoting more partnerships between the private sector and key human rights-based NGOs also ensures that the resources and capacity of the private sector can help to contribute to the work of NGOs working to protect and promote human rights.

⁵⁰ FTI Consulting, “Artificial Intelligence: The Race is on, The Global Policy Response to AI” February 2018, accessed 11 October 2018, <https://euagenda.eu/upload/publications/untitled-128126-ea.pdf>.

⁵¹ Telecommunications Industry Dialogue Home Page, date accessed 10 October 2018, <http://www.telecomindustrydialogue.org/>

⁵² Industry Dialogue Reply to Privacy International, date accessed 10 October 2018, <http://www.telecomindustrydialogue.org/wp-content/uploads/Industry-Dialogue-reply-to-Privacy-International-Feb-8-2017.pdf>

Microsoft and the UN High Commission for Human Rights launched a five year partnership to support the development of technology to better predict, analyse and respond to critical human rights situations.⁵³ The partnership includes a financial grant to support the work of the UN High Commission for Human Rights, along with utilizing Microsoft technology and to further promote adoption of the UN Guiding Principles of Business and Human Rights.

As discussed further in our response to Question 9, the provision of tools and education programmes highlighting the positive social and economic outcomes of adhering to human rights principles in the development of new technology can assist organisations in understanding the benefits of going above and beyond any legal framework requirements.

Question 6

How should Australian law protect human rights in respect of AI-informed decision making?

Australian law has only recently begun to address issues concerning artificial intelligence (AI) and most of the discussion so far has been regarding discrete applications of narrow AI (aka “weak AI”). This leaves several gaps in the law, as additional applications of narrow AI become available in the market, and as the (still distant) prospect of general AI (aka “strong AI”) grows.

There are many difficulties that come with regulation of AI which include the pace of change in this area. As PWC’s Chief Data Scientist Matt Kuperholz has said “Human inventiveness is moving faster than the pre-tech regulatory environment around it.”⁵⁴ The consequences of a delay in clearer regulation of AI and related technology include:

- a lack of investment in relevant technologies in Australia due to uncertainty about commercial risk and liability, with long-term consequences for the whole economy;
- a lack of cooperation among key stakeholders and experts due to confusion on the issue of intellectual property ownership where disparate groups or individuals supply data, train and test the algorithm and implement / execute, especially if “post-sale” customisation or tuning occurs;
- mistrust amongst consumers if products are released without adequate testing or warnings and adverse consequences befall consumers.

AI in the legal profession

Within the legal profession, the national legal aid body in Australia spent some time in 2016 exploring new technology to help clients solve disputes without the need for a lawyer (online dispute resolution).⁵⁵ This would be for cases that are not as complex, but technology like this raises the questions, how can the ethical competence, care and skill standards⁵⁶ applied to a member of the legal profession be applied to a machine?

⁵³ Microsoft News Center, “Technology for human rights: UN Human Rights Office announces landmark partnership with Microsoft” 16 May 2017, accessed 11 October 2018

<https://news.microsoft.com/2017/05/16/technology-for-human-rights/>

⁵⁴ PWC Digital Pulse, “The ethics of artificial intelligence in law” March 2017, accessed 4 October 2018

<https://www.digitalpulse.pwc.com.au/artificial-intelligence-ethics-law-panel-pwc/>

⁵⁵ Lawyers Weekly, Artificial intelligence poised to close justice gap, July 2016, accessed 4 October 2018

<https://www.lawyersweekly.com.au/news/18957-artificial-intelligence-poised-to-close-justice-gap>

⁵⁶ Legal Profession Uniform Law Australian Solicitors’ Conduct Rules 2015, rl 4

This also raises questions concerning whether or not lawyers think they are obligated to understand the technology they use. A 2018 LexisNexis survey on AI and ethics asked legal professionals across Australia whether lawyers have a professional responsibility to understand the technology they use. Overwhelmingly respondents agreed that lawyers do have such a responsibility: 75% unequivocally agreed, 18% answered “maybe”.⁵⁷ But in the case of AI, what does it mean to “understand” the technology?

AI, Tort and Product Liability

AI would place the subject of foreseeability into an unknown territory. The system of tort in our legal systems follows a series of tests which ultimately decide what compensation should an injured party receive when they are harmed by the negligence of another, and generally the compensation is monetary. However, in the case of AI, who would be liable for negligent conduct. One of the requirements for negligence is that the action or lack of, could be reasonably foreseeable to cause the other party harm by an ordinary person. This becomes difficult to regulate due to the difficulty in determining what would be reasonably foreseeable to cause harm by a form of AI.⁵⁸ Discussions around this use the analogy that when a car is faulty you blame the developers, can this be done with the remainder of AI? Another example is if a case arises where a law firm is using AI to assist in solving a matter and are then sued with professional negligence, what happens, who is to blame?⁵⁹

AI and Discrimination law

The consultation paper highlights the investigation of an algorithm called ‘Correctional Offender Management Profiling for Alternative Sanctions’ (COMPAS) used to assess the risk of individuals committing a future crime as a factor in sentencing decisions.⁶⁰ ProPublica claims that the algorithm was biased against African Americans; their analysis found that the program was twice as likely to classify African Americans that were non-offenders, as medium to high risk as compared to white defendants.⁶¹ As a result of the controversy, a wealth of arguments has grown up around the issue of the appropriate standards to apply, the question of what is mathematically possible, and the much larger issue of what is fair.⁶² The complexity of the models being used in these arguments outstrips the education and comprehension levels of the majority of the population. As the technology evolves this complexity will continue to grow and what is (not) possible now will inevitably change. What will not change, while inequality remains in society, is the underlying tension in the design of these algorithms between “accuracy” (in the sense of the ability of the model to predict the likelihood of outcomes in an unequal world) and “fairness” (in the sense of our aspiration for the algorithms to be used to mitigate inequality).

We cannot scrub the training data to remove a legacy of inequality by simply removing from the training data any data points that *should not* have been used to reach a decision. If a human decision-maker could discern (or assume) a protected attribute while making a decision about a person,

⁵⁷ LexisNexis, 2018 LexisNexis Australian Legal Tech Survey.

⁵⁸ W Kowert “The foreseeability of Human – Artificial intelligence Interactions” (2018) 96 Texas Law Review 1

⁵⁹ LexisNexis “Lawyers and Robots? Conversations around the future of the legal industry”, accessed 4 October 2018

https://www.lexisnexis.com.au/_data/assets/pdf_file/0003/187644/Lawyers_and_Robots_Whitepaper.pdf

⁶⁰ Australian Human Rights Commission, Human Rights and Technology Issues Paper, July 2018, page 28

⁶¹ Ibid.

⁶² For a summary see ProPublica, “Bias in Criminal Risk Scores is Mathematically Inevitable, Researchers Say”, 30 Dec 2016, accessed 14 October 2018, <https://www.propublica.org/article/bias-in-criminal-risk-scores-is-mathematically-inevitable-researchers-say>

whether or not the human decision-maker indicates that the protected attribute had an impact on their decision, and that decision becomes part of a training data set, the protected attribute would ideally be included as a data point.⁶³ Real world training data will remain inherently biased despite not directly considering sensitive information or protected attributes; redundant encoding allows programs to use other data points to infer relevant data not specifically provided. By specifically including sensitive information, problematic patterns will be easier to detect, diagnose and discuss as the technology develops and the debate between accuracy and fairness evolves.

However, there are real world constraints; working with existing data sets means that this data is not necessarily available and cannot be back-captured. More importantly, the important protections of Australian privacy law and the new GDPR regulation should not be undermined. Where sensitive data cannot or should not be included in the training data set, an algorithm's output should still be periodically tested for indirect bias against individuals with specific characteristics. This incurs a testing and maintenance burden which would have to be calibrated to the extent of the impact of the algorithm-informed decision on human subjects. That is, it would need to reflect the probability and severity of risk associated with the impact of making the wrong decision for any given individual or class of individuals. Where applicable, this maintenance burden could be folded into the dominant SaaS model which already facilitates ongoing upgrades and maintenance of technology with a view to accuracy, performance and other metrics important for market viability.

Where an algorithm is going to be used to make (or contribute to) decisions which impact on "the recognition, enjoyment or exercise, on an equal footing, of any human right or fundamental freedom",⁶⁴ the relevant discrimination acts should be expanded to allow for prosecution of unlawful indirect discrimination caused by the application of an algorithm that does not directly use sensitive data to reach a discriminatory conclusion. Australian law already recognises a distinction between motive or intent to discriminate, and the "grounds" of the discrimination.⁶⁵ This distinction is useful when discussing the motive for developing and deploying an algorithm versus the use of protected attribute data within the algorithm as grounds for the decision. The intention may not have been to discriminate but the use of certain data points may directly discriminate.

Perhaps more likely is the prospect of indirect discrimination via redundant encoding in rich data sets allowing the algorithm to use proxy data for protected attribute data. Australian discrimination legislation in some jurisdictions already recognises indirect discrimination⁶⁶ as actionable, whether or not the decision-maker is aware of (let alone intends) the discriminatory impact of their decision. This concept should be expanded to address the issue of redundant encoding specifically and discriminatory outcomes generally. The "black box" nature of algorithms should not provide protection when new decisions replicate and entrench historical inequalities.

AI and Intellectual Property

Some of the most enduring concepts in Intellectual Property (IP), such as "author", "inventor", and "creator", are not currently well-adapted to cope with the realities of how AI is developed. In the case of supervised learning, is the "author" of an algorithm the person (or organisation) who selects

⁶³ Although note the requirements of Australian privacy law and the need for qualifications on the ability of organisations to collect and handle such sensitive data. The capture of such data should not necessarily create an inference that the sensitive data point was one of the reasons for the decision, thereby rendering the decision unlawful under the relevant Discrimination Acts.

⁶⁴ (Cth) Racial Discrimination Act 1975 s 9(1).

⁶⁵ J Carter, 80 – Civil and Political Rights, II Civil Rights, (1) Equality and Discrimination, (C) Discrimination, (I) Introduction at [80-240], *Halsbury's Laws of Australia*, LexisNexis, 7 March 2018, accessed 14 October 2018

⁶⁶ (Qld) Anti-Discrimination Act 1991 s 11; (Vic) Equal Opportunity Act 2010 s 9; (Tas) Anti-Discrimination Act 1988 s 15.

and grooms the data, programs the algorithm, or tests and tunes it to produce the most accurate results? When dealing with large sets of proprietary data, is the owner of that data a co-author of the algorithm?

Organisations sourcing their data from third parties to create and train AI will feel particularly vulnerable to claims of ownership from the data licensors. At what point does the amount of work done by the AI-training organisation to prepare the data set (ie to correct, normalise and ringfence) outweigh the claims of a data licensor providing raw data? Data scientists spend a great deal of their time on data; estimates range from 50% to 80%.⁶⁷ It makes sense for the commercial value of this preparatory work to be recognised, but can we safely assume that the licensing fee or sale price is sufficient, or is there some enduring IP claim (commercial or otherwise) to the resulting algorithm and related products. Note also that as the technology evolves and it becomes more realistic to grapple with large amounts of genuinely unstructured data, or even the kinds of semi-structured data sets common to professional domains like legal judgments and doctors' notes, training data will increasingly be from sources and licensors that have not contemplated the use of their content in this fashion.

AI and legal personhood

Last, but not least in the popular imagination, is the spectre of "general AI", also known as "strong AI" or even "super AI" and legal personhood. The genesis of a super intelligence that can be applied to any task and which will grow – out of control – into an existential threat to humanity driven by overbearing paternalism or outright malice is a popular plot in fiction. Whether the resulting concerns are realistic or not (given the current rate of AI development), these concerns will colour conversations with the general public on AI generally. Potential smaller changes to the law to facilitate the use of narrow AI in discrete use cases such as those contemplated by Estonia (see below) may also prove difficult to introduce in the shadow of Skynet and HAL and the inevitable slippery slope argument. Legislating to pre-emptively address these concerns may help pave the way for a more constructive conversation on other issues.

Learnings from other countries

The UK has established a Centre for Data Ethics and Innovation⁶⁸ where consultation has just recently closed. The Centre aims to identify measures needed to improve how data and AI are regulated and used, and make recommendations as an independent advisory body. The creation of a similar independent body would assist the Australian government and industry by bringing together the currently limited number of existing experts in an advisory capacity. One of the major obstacles to appropriate regulation in any nascent field is a lack of accurate understanding of both the risks and opportunities. An independent body could act as a focal point for discussions within the

⁶⁷ Lohr, "For Big-Data Scientists, 'Janitor Work' Is Key Hurdle to Insights", *New York Times*, 17 Aug 2014, accessed 14 October 2018, <https://www.nytimes.com/2014/08/18/technology/for-big-data-scientists-hurdle-to-insights-is-janitor-work.html>; DeZyre, "Why data preparation is an important part of data science?", 7 April 2016, accessed 14 October 2018 <https://www.dezyre.com/article/why-data-preparation-is-an-important-part-of-data-science/242>; Ruiz, "The 80/20 data science dilemma", *InfoWorld*, 26 Set 2017, accessed 14 October 2018 at <https://www.infoworld.com/article/3228245/data-science/the-80-20-data-science-dilemma.html>.

⁶⁸ Gov.UK, Centre for Data Ethics and Innovation Consultation, June 2018, accessed 4 October 2018 <https://www.gov.uk/government/consultations/consultation-on-the-centre-for-data-ethics-and-innovation/centre-for-data-ethics-and-innovation-consultation>

sector and with the larger community, helping to socialise new concepts, educate the population, and gather feedback on ethical questions and cultural attitudes to inform legislators. On a more concrete level, the body could prioritise areas for investigation, review and reform, allocate funding based on priorities, and provide best practice guidelines and industry codes.

There have been similar discussions about the establishment of an international AI regulatory agency which would govern the development of AI technologies and AI policies around the world drawing on interdisciplinary expertise. This proposal would create an International Governmental Organisation (IGO) which would serve as a point of policy debate on AI matters and initially use soft law instruments such as guidelines and standards to assist in AI related regulatory policies.⁶⁹ This avenue would provide global standards to AI policies and it could potentially be beneficial in guidance for Australia in regulating this area, in conjunction with a domestic body addressing local concerns.

In Japan, a strategy called the “Robot Revolution Initiative” establishes a new legal system to effectively use robots and promote development of different robotic systems in the industry. Since the 1980s robots in Japan have become increasingly common, in part due to efforts to mitigate the impact of a rapidly retiring workforce; by 2050 nearly 40% of the population is expected to be over the age of 65.⁷⁰ Japan holds the number one position as global supplier of industrial robots and is the fourth most robot integrated economy in the world, with 3.03 robots per human worker.⁷¹ The primary functions of this strategy are: promotion of matching needs with development of solutions; strategic planning and utilization of international standards and security measures; sharing and diffusing best practice; planning international research projects; and proactive use of research and development institutions in Japan and utilization of alumni.⁷² The Australian economy is different to Japan’s for many reasons, but particularly in relation to population and labour market dynamics. Consequently, learnings from Japan’s strategy may be limited. However, a key area we might explore is the investment in robots to supplement the workforce in health and aged care services,⁷³ particularly in light of the looming shortage in the Australian nursing workforce crisis⁷⁴ and the issues related to older Australians discussed in more detail in this submission at Question 2.

A significant issue is whether Australia would grant legal personhood to various forms of AI. If this were to occur, would the manufacturer of the technology or the individual operating the AI system be held liable for a flaw in the system? This is a question that has not been solved yet, discussion lies around whether this would be solved by reprogramming the piece of AI, shutting it down or hold the manufacturer personally liable for the AI created.⁷⁵ In Estonia laws are already being discussed to give robots legal status. One of these proposals includes the introduction of the legal term “robot-

⁶⁹ O, J Erdelyi and J Goldsmith, “Regulating Artificial Intelligence Proposal for a Global Solution”, accessed 4 October 2018, http://www.aies-conference.com/wp-content/papers/main/AIES_2018_paper_13.pdf

⁷⁰ Research by the National Institute of Population and Social Security, cited in Schneider et al, “Land of the Rising Robot”, June 2018, *Finance & Development* Vol 55 No 2, International Monetary Fund, accessed 14 October 2018 at <https://www.imf.org/external/pubs/ft/fandd/2018/06/japan-labor-force-artificial-intelligence-and-robots/schneider.htm>.

⁷¹ Ibid.

⁷² New Robot Strategy, Japan’s Robot Strategy, February 2015, accessed 11 October 2018, http://www.meti.go.jp/english/press/2015/pdf/0123_01b.pdf

⁷³ D Hurst, “Japan lays groundwork in boom in robot carers”, *The Guardian*, 6 Feb 2018, accessed 14 October 2018, <https://www.theguardian.com/world/2018/feb/06/japan-robots-will-care-for-80-of-elderly-by-2020>

⁷⁴ Harrington and Jolly, “The crisis in the caring workforce”, Parliament of Australia, accessed 14 October 2018, https://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/Briefing_Book44p/CaringWorkforce

⁷⁵ Ibid.

agent”⁷⁶ being applied as a separate legal personality and an object of personal property.⁷⁷ Estonia has a paperless government, has made internet voting possible for the population, and is where Skype was created.⁷⁸ The country is at the forefront of technological development and its population and business interests are therefore more amenable to the trialling of the changes that would be required to the various areas of law, including insurance law, transport law, and succession law.

Estonia also benefits from the mythology of the ‘kratt’ which is a created being, ensouled when its owner makes a deal with the devil. The kratt is a convenient narrative vehicle which can be used to discuss the implications of AI laws with the rest of the population.⁷⁹ Australia may learn from Estonia’s progress in the relevant legal areas but to prepare Australian society for the introduction of these or similar changes, a similar narrative vehicle should be found to equip the local population with an accessible mental model and allow thereby start to grapple with the potential use cases and nuances of AI-based agents.

Question 7

In addition to legislation, how should Australia protect human rights in AI-informed decision making? What role, if any, is there for:

(a) An organisation that takes a central role in promoting responsible innovation in AI-informed decision making?

The concept of “regulation by design”, sometimes referred to as choice architecture or the “nudge”, has come under criticism. The concerns tend to fall into opposing camps: regulation by design is opaque, ambiguous, manipulative, lacks (democratic) oversight, and is not subject to due process (outside of market forces). Which is to say it is in danger of being too effective and hard to detect and therefore inherently sinister. The opposing position being that it is insufficiently strict as it does not involve sanctions, can be circumvented by the determined, and therefore cannot be relied upon to achieve important goals.

The reality is that users of products that incorporate AI are already subject to design choices made upstream in the product development and data selection processes. It’s easy for users to engage with products without being cognisant of these choices, let alone critically consider whether the outcomes of those choices materially impact their perception of the “truth”, as represented by the data before them, or their options in the face of the recommendations stemming from that data.

When it comes to AI there are a lot of layers for the average person to unpack. The technology can be intimidating and generally requires education and experience in rapidly evolving niche subject areas. Even if you do have the requisite understanding, considerable time is required to fully engage with the choices made in the development and training of any one algorithm. Then there is the “truthfulness” of the data: analysts know that data can be rife with mistakes and mislead the

⁷⁶ Australian Human Rights Commission, Human Rights and Technology Issues Paper, July 2018, accessed 4 October 2018, <https://www.humanrights.gov.au/sites/default/files/document/publication/AHRC-Human-Rights-Tech-IP.pdf>

⁷⁷ The National, Estonia sets the pace for robot regulations, October 2017, accessed 11 October 2018, <https://www.thenational.ae/business/estonia-sets-the-pace-for-robot-regulations-1.667727>

⁷⁸ Microsoft, “Skype at 10: How an Estonian startup transformed itself (and the world)”, accessed 11 October 2018, available at, <https://www.microsoft.com/en-us/stories/skype/skype-chapter-2-welcome-to-estonia.aspx>

⁷⁹ M Kaveats, “Estonia considers ‘kratt law’ to legalise Artificial Intelligence (AI)”, 25 Sept 2017 accessed 14 October 2018, <https://medium.com/e-residency-blog/estonia-starts-public-discussion-legalising-ai-166cb8e34596>.

inexperienced, but most people don't have the experience to recognise flaws or the language to constructively challenge datasets.

Even with the best of intentions, decisions to clean and normalise data inherently carry value judgments and cultural coding: what do users want to see in data; what constitutes a data error; how data will be used and should therefore best be presented; what data points are "sensitive" and should be masked. It may be possible for a data scientist to articulate any conscious choices made in the construction of a dataset but their unconscious biases and assumptions are not so easily detected, let alone explained. All this adds up to the presentation of data as "reality", with the process of sculpting that reality obscured even to those responsible for presenting it.

Human psychology is not well equipped to stare down evidence of historical choices and choose a new path: studies support the existence of cognitive biases that favour the status quo and feel risk from new actions more keenly than risk from previous actions, even for the those with specialist training and experience in a field. The upshot is that regulation by design is already occurring whenever data is cleaned and presented directly as facts and figures, or indirectly as the output of algorithms making recommendations.

Then there is Professor Yeung's "hypernudge" argument: big data allows "data barons" like Google and Facebook to present individuals with "a highly personalised choice environment" and therefore manipulate outcomes. She has many concerns about the use of the hypernudge, including the power asymmetry, the lack of meaningful consent in relation to the sharing and use of an individual's data, and the use of big data collection as soft surveillance. Her criticisms are compelling but ultimately demonstrate that the size of the problem has outgrown us: large chunks of the global economy are based on the behaviour and tools she criticises because those tools are so successful.

Consequently, the only realistic way forward seems to be to harness the power of regulation by design and yoke it to legal sanctions for effective governance of AI and big data. For good or ill, the consequences of design choices are "baked in", whether or not product developers and data scientists (and the commercial entities they tend to work for) are consciously making those choices with a view to influencing how their end-users behave. Criticisms about the paternalistic nature of the nudge as a force for good are legitimate. However, those criticisms are moot in the face of evidence that human psychology is vulnerable to the kinds of manipulation enabled by technology which will continue to evolve at unprecedented speeds throughout the fourth industrial revolution.

Writing legislation to sanction commercial entities from being too good at showing consumers what they want to see is a difficult undertaking, particularly as drafters are unlikely to be the kinds of futurists who could predict all the ways in which that might be accomplished. The only answer is to pair legal sanctions with the creation and socialisation of an industry standard for encouraging healthy and ethical behaviour by both product developers and end-users. In short, regulation by design should be adopted as a tool to shape product management processes, develop commercial governance mechanisms, and create products or services that protect and guide consumers.

This is why a co-regulatory approach to governing the development of AI is important. The fostering and articulation of social norms and industry best-practice should be undertaken by an organisation which is commercially disinterested but able to act as a forum for businesses, academics and civil society to engage with issues as they arise. Norms are the original nudges: techniques developed by society over millennia to keep individuals aligned with the group's interests. Norms go a long way to preventing and mitigating disharmony in the group before it escalates too far. They don't stand in the way of anyone truly determined to act in dangerous and antisocial ways, which is why we also

have laws. The pairing of the two methods for educating and controlling the population is essential. An independent body could assist the Australian government by identifying the line between behaviours subject to legal penalties and behaviours incurring lesser sanctions such as fines, public criticism or the revocation of a certification mark.

This body could also help with the practical aspects of conforming to new legislative standards or developing industry best-practice, such as: educating the population about fact-checking and data sampling techniques to check for biases; reviewing and accrediting datasets to check for over- or under-representation of minorities and vulnerable groups; auditing data management protocols for privacy and security breaches; assisting government with advice on procurement of products or services involving AI, especially where those products or services would be used to support decision-making about citizen rights or obligations; or designing and cataloguing a new series of voluntary product disclosure certificates which list design choices and assumptions underpinning AI-based products.

Finally, this body could bring together experts to collaborate on a product management methodology for AI, big data and machine learning products and services. Through deliberate utilisation of a “regulation by design” approach, this methodology could provide practical assistance for developers, data scientists and executives wishing to stay “inside the lines” established by the norms created and socialised by the same independent body. Elsewhere in this submission we have discussed concerns about the potential inability to foresee the risks of AI products and services being used to further unethical or discriminatory ends. The developers’ liability should be observed and enforced for wrongdoing, to the extent they were capable of anticipating the misuse. A robust product management approach developed by this independent body and voluntarily adopted would assist with anticipating misuse and evidencing an intent to safeguard against misuse, and therefore benefits both industry (by providing confidence and security about the best way to invest and move forward) and society (by shepherding developers in an ethical direction). The approach should include a variety of tools, to be adopted as relevant for the nature of the product or service under development. The toolkit might include:

- A checklist and method for articulating the MVP mission statement: a way of capturing the vision for the minimum viable product (MVP) before resources are committed, challenging developers and business to deliberately consider ethical facets from the outset, such as inclusive design from the ground up, balanced by the usual commercial viability calculations. As scope changes with agile development practices, the mission statement should be deliberately and regularly revisited and adapted to ensure the vision for an ethically-rounded product remains alive and cannot be dropped from scope without deliberately and consciously confronting the impact of those decision
- A red team should periodically challenge the developers and review the product for risks of future misuse or faulty assumptions. A red team is hard to muster for small or lean organisations but with the appropriate NDA, an independent industry body could furnish the members of such a team in a consultative capacity. Note that periodic red team challenges during the development of a product could be used to safeguard not just the social and ethical impacts of the product but strengthen its commercial viability.
- Accepted methodologies for identifying and dealing with issues that routinely arise in datasets, such as over- or under-representation of specific groups, and options for modifying the data to pursue either accuracy vs fairness, or equity vs equality etc.

LexisNexis Submission: Human Rights and Technology Issues Paper

- Ways of disclosing data imbalances objectively and intelligibly for end-users with differing levels of education and experience, allowing them to make informed decisions about how to proceed with the information provided.
- Effective nudges and user experience techniques for educating end-users and prompting them to actively consider whether the status quo presented to them in the form of the historical data should be perpetuated or challenged.
- Auditing mechanisms to periodically review the performance of AI-based products or services to check of unintended discriminatory outcomes.

Question 9

What should be the Australian Government's strategy in promoting accessible technology for people with disability? In particular:

a) What, if any, changes to Australian law are needed to ensure new technology is accessible?

b) What, if any, policy and other changes are needed in Australia to promote accessibility for new technology?

The Federal Government's proposed Modern Slavery Act (MSA) requirements have features which offer interesting parallels to the current project:

- **Progressive approach to allow organisations to achieve true compliance through building organisational awareness and capacity to address issues over time.** In the first iteration of the MSA, organisations are required to publish an annual report detailing their processes to understand and mitigate the risk of modern slavery within their operations, including supply chains. This approach (including lack of penalties where modern slavery is detected in the supply chain) is stated by its supporters to encourage organisations to identify and address risks, rather than ignoring their existence or operation for fear of reprisal or because the risks are not currently well-understood.⁸⁰ The criticism regarding lack of penalties could be addressed in a second iteration or included in the mandated review (fourth point below).
- **Extraterritorial operation.** The reporting requirement applies to all organisations with turnover of \$100m or more, including foreign entities. In addition, organisations must report risk and mitigations across the organisation's entire supply chain, not just those activities occurring within the Australian jurisdiction. The proposed legislation specifically states that it extends to acts and omissions outside Australia. This is particularly relevant in relation to concerns regarding use of technology, which by its nature is not bound by geographical borders.
- **Resourcing / funding dedicated to assisting organisations.** The Federal government has committed \$3.6m to establish a "modern slavery business engagement unit" within the Department of Home Affairs. This initiative demonstrates the government's understanding that effective outcomes can be achieved when businesses find it easy to understand and fulfil their regulatory requirements.
- **Review mechanism.** The legislation includes a provision to formally review the Act and its operation within 3 years of its commencement. Due to the rapid pace of technological development, a review period of any new framework would be especially useful and also

⁸⁰ D Graham "Modern Slavery in Supply Chains" Choice, 14 August 2017, accessed 13 October 2018 <https://www.choice.com.au/shopping/everyday-shopping/ethical-buying-and-giving/articles/supply-chains-and-modern-slavery>

reassure business that the government's focus is on improved outcomes rather than red tape.

In addition, in line with *Australia's National Disability Strategy 2010-2020*,⁸¹ the principles of inclusion and accessibility should be encouraged across all sectors that contribute to technological development and new technologies. Through greater participation, employment, training opportunities and representation of people with disabilities in the ideation, design and implementation process, issues impacting people with disabilities are addressed by those best placed to provide input to the solution.

Question 10

How can the private sector be encouraged or incentivised to develop and use accessible and inclusive technology, for example, through the use of universal design?

By utilising lessons learned in the implementation of Corporate Social Responsibility (CSR) frameworks,⁸² industry can be encouraged to understand the value to their shareholders, employees and customers of developing and using accessible and inclusive technology.

There are some generally accepted benefits of CSR which could be assumed to apply to the adoption of principles which protect and promote human rights in the development and use of technology:

- CSR programs add financial value to an organisation over the long term;⁸³ for example through an improved competitive advantage and reputation⁸⁴
- Organisations with high ESG (environmental, social and governance) scores perform better financially and are more resilient to external forces including market changes and new legislative regimes⁸⁵
- Links between a high level of organisational commitment to CSR and high levels of in-role job performance⁸⁶

Combined with an education programme that highlights these benefits, it may assist organisations to have access to tools, sample policies or guidelines which detail methodologies to embed the use and development of accessible technology.

⁸¹ Australian Human Rights Commission, "Overview of the National Disability Strategy 2010-2020" May 2016, accessed 9 November 2018 <https://www.humanrights.gov.au/our-work/disability-rights/about-disability-rights/overview-nds-national-disability-strategy-2010>

⁸² E Stone "Take 5: How Companies Benefit from Corporate Social Responsibility" Kellogg School of Management at Northwestern University, 1 March 2018, accessed 13 October 2018 <https://insight.kellogg.northwestern.edu/article/benefits-of-corporate-social-responsibility>

⁸³ T Keys, T W Malnight, K van der Graaf "Making the most of corporate social responsibility" *McKinsey Quarterly*, December 2009, accessed 13 October 2018 <https://www.mckinsey.com/featured-insights/leadership/making-the-most-of-corporate-social-responsibility>

⁸⁴ Deloitte "Progress, prospects and impact: How business is preparing for the Modern Slavery Act" 2018 Annual Review of the State of CSR in Australian and New Zealand, accessed 13 October 2018 http://images.content.deloitte.com.au/Web/DELOITTEAUSTRALIA/%7B5659fb56-0ae2-48e8-bebb-d3d4680d32c8%7D_20180821-ris-inbound-csr-annual-review-report.pdf?elq_mid=&elq_cid=54459

⁸⁵ B Potter "Low ESG scores foretold trouble for investors at BP, VW, BHP, Facebook" *Financial Review* 31 October 2018, accessed 2 November 2018 <https://www.afr.com/news/low-esg-scores-foretold-trouble-for-investors-at-bp-vw-bhp-facebook-20181031-h17bly>

⁸⁶ W Wang, Y Fu, H Qiu, J H Moore, Z Wang "Corporate Social Responsibility and Employee Outcomes: A Moderated Mediation Model of Organizational Identification and Moral Identity" *Front Psychol* v 8 2017, accessed 13 October 2018 <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5671997/>

LexisNexis Submission: Human Rights and Technology Issues Paper

As examples, we have included some of the work LexisNexis is doing:

(a) Accessibility Policy Guidelines

1. Design products and internal tools and websites utilising new technologies and standards that increase product accessibility and increase usability.
2. Strive to adhere to The World Wide Web Consortium's [Web Content Accessibility Guidelines Version 2.0 level A](#) and other country specific web accessibility standards, for example the U.S. [Section 508 Guidelines](#) and The New Zealand [Web Accessibility Standard 1.0](#). Online product sites should be operable, understandable, and robust. This means sites are compatible with a range of assistive technologies.
3. Conduct regular reviews of product accessibility by gathering user feedback and by using other testing measures; align reviews with product release schedules.
4. Track product accessibility progress (eg the number of accessibility upgrades, number of sites reviewed audited, number of alternate formats provided, etc).
5. Ensure new print products are available in an accessible electronic format.
6. Recognise staff who uphold the RELX Group Accessibility Policy in their work.
7. Prioritise suppliers and partners who adhere to high accessibility standards.
8. Identify accessibility champions from across RELX Group to serve on the RELX Group Accessibility Working Group, to share best practices, to collaborate and to innovate in the field of accessibility.

The initial phase of the accessibility policy is currently being rolled out globally. To ensure maximum and real impact, there are multiple strands to the policy, including education and awareness building for all employees, practical tools for those involved in UX, product development and design, as well as reporting mechanisms which will be publicly available.

Some of the activities include:

- Video simulations using JAWS screen reader and keyboard only to identify customer user journey pain points (file: BIS_Nexis_Power_Search_Screen_reader.mov)
- Wireframe creation with accessibility annotation to provide early prevention of accessibility issues (file: Power_Search_Index_Term_A11y_Annotation.pdf)
- Internal audit reports to help Product and Dev teams fix defects (file: Nexis_internal_audit_aug.docx)
- Providing accessibility training, guidelines, toolkit and workshops to improve accessibility awareness for LN employees
- Setting up an accessibility inbox in which any customers in the world can contact us for assistance accessibility@lexisnexis.com.

(b) Customer personas

To identify future accessibility issues and solutions, the UX team has begun developing sample customer personas within our procurement / supply chain to anticipate needs and ways of uncovering requirements

LexisNexis Submission: Human Rights and Technology Issues Paper



Librarian

Persona 1
Industry Higher Education
Country US and Canada

Responsibilities:

Tasked with purchasing products
Request accessibility reports
Assess the reports
Provide feedback to decision makers
Contact suppliers for remediation plans

Frustrations:

No contact to obtain information
Long wait to obtain VPATs
Large number of inaccessible features
Not able to obtain remediation plan

Motivations:

Clear information on product site for accessibility
Able to obtain VPATs quickly
Small number of defects on the reports
Helpful and collaborative gesture from the suppliers



Disability Officer

Persona 2
Industry Higher Education
Country US and Canada

Responsibilities:

Remove any barriers from learning environment for students who have formally registered their disability
Contact suppliers on behalf of the students
Verify and confirm students' disability with suppliers
Offer various resources, services to improving accessibility

Frustrations:

No publisher contact information for accessible books
Publishers have no facility to make accessible books
Publishers don't understand the requests
Students lack of accessible material to complete their coursework

Motivations:

Clear information on product site for accessibility
Quick response from the suppliers
Able to obtain accessible material easily
Clear understanding from the publisher regarding copyright laws



IT Professional

Persona 3
Industry Higher Education | Corporate |
Software Reseller
Country US and Canada

Responsibilities:

Make sure any products they purchased have adequate accessibility compliance level also compatible with their existing system
Help any disabled users who need ongoing support

Frustrations:

Lack of the understanding of the products
Products are not working as expected
Products stop working after upgrading
Suppliers do not respond when issues occurred
Dealing with frustrated users

Motivations:

Clear instructions on how to use assistive products
Clear information on product site for accessibility
Quick response from the suppliers
The quality of the products is good and easy to support

It has also been suggested that organisations could invest in programs which have a direct benefit on their employees, with the support of government incentives. This could include retraining employees with skills applicable to the technologically-driven workplace. By investing in employees who have experience of the industry and the company, this could potentially have further financial benefits to the organisation as they are able to more quickly adapt to the changing marketplace.⁸⁷

For employees, it is worth noting that an individual's future salary expectations can be impacted if their current organisation is involved in serious regulatory breaches, even where that individual was not involved.⁸⁸

⁸⁷ S A Wright, A E Schultz "The rising tide of artificial intelligence and business automation: Developing an ethical framework" *Business Horizons*, Volume 61, Issue 6, November-December 2018, pp 823-832

⁸⁸ M Blanding "Working for a Shamed Company Can Hurt Your Future Compensation" Harvard Business School 10 January 2018, accessed 13 October 2018 <https://hbswk.hbs.edu/item/working-for-a-shamed-company-can-hurt-your-future-compensation>