

Australian Computer Society Inc. (ACT)

ARBN 160 325 931



National Secretariat

Tower One, 100 Barangaroo Avenue, Sydney NSW 2000
PO Box Q534, Queen Victoria Building, Sydney NSW 1230
T +61 2 9299 3666 | F +61 2 9299 3997
E info@acs.org.au | W www.acs.org.au

To the Department of Prime Minister and Cabinet

ACS Response

Positioning Australia as a leader in digital economy regulation - Automated decision making and AI regulation

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Dear Sir or Madam

Thank you for the opportunity to contribute to this discussion. The Australian Computer Society (ACS) is the peak professional association for Australia's information and communications technology sector.

This is a critical and ongoing issue, and we're very happy to see the Australian Government is taking it seriously and developing frameworks and processes for managing the societal impacts of AI. As AI becomes increasingly developed, it will touch every aspect of the daily lives of all Australians, and we need these foundations in place to ensure that AI works to the benefit of society rather than its detriment.

In the following pages, we have answered some of the questions posed in the Department's discussion paper on Automated decision making and AI regulation. These answers are the work of expert members in our AI Ethics Advisory Board, and we hope that they can be helpful as the work on these policies continues.



Answers to specific questions

Please note that not all questions have been provided with answers.

1. What are the most significant regulatory barriers to achieving the potential offered by AI and ADM? How can those barriers be overcome?

A lack of expertise within government continues to be an issue in the regulatory space for AI. This impacts the development of law and policy, the activities of regulators monitoring and enforcing law and policy, and the development of guidance around AI and interaction with the AI industry (for example around the development of and acceptance of industry codes of practice).

ACS believes there is a substantial need for technical expertise in government to inform policy development and its application. We are also referring to related fields of expertise: there is a need for technical understanding, but also expertise at the intersection of technical and legal/policy to ensure that the right questions are being asked.

The need for such expertise has been noted previously. The Australian Human Rights Commission, in its final report on Human Rights and Technology, recommended the creation of an AI Safety Commissioner as an independent statutory office specifically to provide technical expertise on the development and use of AI. We second that recommendation.

While regulation should be led by domain-expert regulators familiar with relevant areas of policy (whether health, communications, or workplace relations), an independent statutory office or similar expert body established by government could provide a central source of advice and expertise to inform policy-making, and to provide a critical independent capacity to evaluate views and proposals made by stakeholders internal and external to government.

The Human Rights Commission proposed that an AI Safety Commissioner could:

- provide expert guidance to government agencies and the private sector on how to comply with laws and ethical standards regarding the development and use of AI
- work collaboratively to build the capacity of regulators and the broader 'regulatory ecosystem' to adapt and respond to the rise of AI in their respective areas of responsibility
- monitor trends in the use of AI in Australia and overseas and provide robust, independent and expert advice to legislators and policy makers with a view to addressing risks and taking opportunities connected to the rise of AI.

5. Are there opportunities to make regulation more technology neutral, so that it will apply more appropriately to AI, ADM and future changes to technology?

When discussing technology-neutral laws, we would like to refer to the following extract from the article by Lyria Bennet Moses, *The legal eye on technology*¹, where the author explains:

"While some legal minds approach technology as something to be mapped, scoped and regulated, others prefer to close their eyes altogether. A call for 'technological neutrality' in the formulation of law seeks to influence the world without regard to technological mechanisms enabling activities of concern. While legal rules can never completely abstract away from the socio-technical landscape on which they operate, the push here is to generalise away from the technical specifics. What is seen by those taking this approach (at the extreme) is an abstraction away from the technological means through which the activities to be prohibited, promoted, or guided are enabled. In my own scholarship, I have focussed not on the technological thing but on the ways in which it changes. In other words, I have looked at technology not as technology, but as the fastest-changing component of the landscape, the thing requiring the most urgent response."

We would like to re-emphasise this perspective and the importance of focusing on the critical changes technology brings to society rather than the technology itself.

7. Is there a need for new regulation or guidance to minimise existing and emerging risks of adopting AI and ADM?

In deciding how and where new regulation or guidance is needed to minimize risks of adopting AI and ADM, it is important to consider what distinguishes AI from other technologies and might require new regulation, and what is not new and could be addressed using current regulation and standards.

Indeed, there is much existing law that could be applied to AI and ADM. It may be worth considering if such law has been applied sufficiently vigorously to deal with emerging issues in AI such as fairness and discrimination given the existing legislation in these spaces.

Two important characteristics of AI and ADM that invite new regulation and guidance are explainability and autonomy.

AI and ADM systems are often black boxes, where the process by which a decision is reached is not explained or perhaps even explainable. There is then a need to ensure explanations can be provided by

¹ <https://alti.amsterdam/moses-legal-eye/>



AI and ADM systems – as they would be with human decision-makers – to ensure fairness, justice, and openness.

Similarly, AI and ADM systems may be given significant decision-making autonomy, and this imposes a new burden to ensure accountability for mistakes and biases. Regulation may be needed then to deal with these two new issues that are particular to AI and ADM systems.

8. Would increased automation of decision making have adverse implications for vulnerable groups? How could any adverse implications be ameliorated?

With ADM vulnerable groups are particularly prone to being harmed, exploited or discriminated by the decision outcomes. They include people under economic strain or displaced, children, women, older people, people with disabilities or other chronic illnesses, and members of ethnic or religious minority groups.

The design and nature of AI algorithms applied in ADM and the nature of the data used in the decision can have adverse implications for vulnerable groups due to the following factors:

1. Technical aspects:
 - a. Unfairness and discrimination are a result of the biases of the algorithms, biases in the data, and biases in the interfaces – these are biases of different nature and people need to be aware about their existence and possible impact on the decision outcomes.
 - i. The biases of algorithms are easiest to address during the iterative design process.
 - ii. The biases in the data sets that are used for training of the learning algorithms are usually discovered at the application of the algorithms. To ameliorate the adverse effects it is necessary to perform extensive tests, with analysis of the results, resembling the rigidity of the tests and analyses used in pharmaceuticals. ‘De-biasing’ of the training data sets is essential.
 - iii. The biases in the interfaces occur when there are default values or a specific order of possible answers, or interactive elements that lead to certain preferred outcomes. Adverse implications can be ameliorated with policies and guidelines addressing design stages.



b. Lack of algorithmic transparency is a significant problem in addressing the biases listed above and in overall understanding of the decision-making processes. Elements of it are addressed by interpretability methods in machine learning and more broadly in explainable AI. Further, the inclusion of algorithmic impact assessment of decisions can assist in improving automated decision-making process. While these areas are relatively new, they are essential from a policy perspective.

2. Process aspects:

The application of robust data science process methodologies, which embed interpretability and causality through the development, deployment and maintenance of AI solutions, is an essential component of risk-amelioration strategies. Process methodologies, like CRISP-ML, are designed to address such issues.

3. Societal aspects:

This is nicely summarised in a quote by Douglass Rushkoff: “It’s really that simple: program or be programmed. Choose the former, and you gain access to the control panel of civilization. Choose the latter, and it could be the last real choice you get to make.” Awareness and broad societal education in computational thinking, foundation and principles of algorithmic decision-making are central to strategies to ameliorate adverse effects.

9. Are there specific circumstances in which AI or ADM are not appropriate?

In Europe and elsewhere, there is a consensus emerging of the need to draw redlines on the use of AI and ADM. Such redlines are important not just to ensure justice in high-stake settings, but also to prevent the public losing faith in lower-stake settings.

One such redline is lethal autonomous weapons. Thousands of AI researchers, 26 Nobel Laureates, the UN Secretary-General, the EU Parliament, 61% of the public in 26 countries, and civil society organisations like the International Committee of the Red Cross and Amnesty International have all loudly called for regulation to ensure meaningful human control of lethal autonomous weapons. Australia has a moral duty to ensure that such redlines are drawn by the international community.

Another redline is the use of facial recognition software, especially in real time and public settings. The concern here does not disappear in some possible future where such systems may be less biased than humans. There are significant issues that remain to be addressed concerning privacy that will require careful regulation if we are not to disturb fundamental rights.



10. Are there international policy measures, legal frameworks or proposals on AI or ADM that should be considered for adoption in Australia? Is consistency or interoperability with foreign approaches desirable?

There are a wide range of initiatives overseas seeking to address the benefits and risks of AI and ADM. In the view of ACS, it is important to be aware of developments overseas, such as those in the European Union, in developing Australia's legal and regulatory framework. We would also urge the government to pay attention to developments in international standards.

One of the largest international policy initiatives is the one led by ISO//IEC JTC1/SC42 on the standardisation of AI systems. To date there are 50 countries (34 participating and 16 observing), and more than 100 experts globally from academia, government and industry involved in the development of international standards on AI.

The ISO work program is very comprehensive, covering not only standardisation of AI systems, but also the data processed by AI systems and organisational process needed to manage and stay in control of the technology. This international standards initiative has liaisons in place with other organisations that are also leading international policy initiatives such as the OECD, the partnership on AI ITU and IEEE.

Australia was involved very early on in the work of JTC1/SC42, and its role has continued to expand. Indeed, to increase Australia's role and direct representation in JTC1/SC42, Standards Australia established an AI Mirror Committee (IT-043) in late 2018. The Australian delegates from IT-043 participate at meetings, contribute to content and vote on adoption of standards relevant to Australia.

In 2019, Standards Australia also provided a roadmap for AI standards with the aim of making Australia's voice heard on international standards fora. The report also touched on how standards can be leveraged for AI to promote interoperability across the different and various legal frameworks, and how developing data quality standards and providing input into the development of the AI Management System Standard are key opportunities to promote responsible AI development and deployment nationally and internationally.