

Algorithms, discretions and decisions in the “robo” age

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Abstract: Computers have been used in tax administration for decades. However, there has been an up-tick in interest, as advances in technology mean that artificial intelligence (AI) is becoming central to efficient public administration. We identify the areas of law that taxpayers and tax offices will find most relevant, in analysing the implications of an increased use of computers in the making of decisions. Having flagged the risks and benefits of AI as an aid to administration, we survey the policy and market developments driving the use of AI. We identify and illustrate the legal issues that are arising. Finally, we give examples of statutory intervention here and abroad to facilitate and regulate the use of AI in tax decision-making, and highlight the sources of “best practice” implementation guidance.

Introduction

Eighty years ago, science fiction author Isaac Asimov envisaged that human-like robots would need a set of rules¹ to prevent them from causing harm to humans. These rules were:

- (1) A robot may not injure a human being or, through inaction, allow a human being to come to harm;
- (2) A robot must obey the orders given it by human beings except where such orders would conflict with the First Law;
- (3) A robot must protect its own existence as long as such protection does not conflict with the First and Second Laws.”

However, as the article in *Britannica* on “science fiction” says:

“Asimov was able to derive an entertaining set of novels and stories from these three premises – even though his imaginary laws have never been used for the control of any real-world robot. Quite to the contrary, 21st-Century robotics are probably best represented by semi-autonomous military vehicles such as the cruise missile, specifically designed to blow itself up as it reaches its target and to do considerable damage.”

In view of the integration of algorithms and artificial intelligence into our modern way of life (which is not limited to the use of androids), it is time for a new set of parameters.²

Definition of terms

There are a variety of terms that are not always consistently defined and understood between lawyers and

technology professionals. In our paper, we will use the following terms with the somewhat shorthand meanings we have adopted:

- “algorithm”: a finite set of instructions programmed into a computer to allow the computer to solve a particular problem;
- “AI or artificial intelligence” is “a collection of interrelated technologies used to solve problems autonomously and perform tasks to achieve defined objectives, in some cases without explicit guidance from a human being. Subfields of AI include machine learning, computer vision, human language technologies, robotics, knowledge representation and other scientific fields. The power of AI comes from a convergence of technologies”;³ and
- “machine learning”: the capacity of a computer to process and evaluate data beyond programmed algorithms, through contextualized inference.⁴ Sometimes the term is used interchangeably with AI, but others consider that machine learning is a step along the way toward pure artificial intelligence.

History

Although the possibility of computers becoming “thinking” machines has long been mooted, there has been a recent escalation of the development and use of this technology. This topic, once the

stuff of science fiction, is now close to reality.

We are familiar with computers being used to assist in collating data, in applying simple algorithms to assist in interrogating data and in automating simple correspondence. All of these uses are aids to the role of a human decision-maker, but they do not generally give rise to any legal issue related to the use of computers in the process. This is subject to the content of the ultimate correspondence or outcome according with the legislation, and being able to be explained by the decision-maker in reasons capable of being understood by the person affected by the decision, and by the tribunals and courts reviewing the decision.

Most issues arise when algorithms go beyond a simple interrogation of data already available to the decision-maker. Legal and reputational problems are more likely to arise from systems that perform data matching between large databases to identify targets for legal or regulatory action, where an outcome of the use of AI and/or machine learning is not able to be interrogated or understood by a human, or where there are insufficient procedures for the referral of AI-determined matters for human reconsideration.

Benefits and risks of AI⁵

In Table 1, we have set out the commonly identified risks and benefits of AI.

Table 1. Benefits and risks of AI

Benefits	Risks
More consistent and accurate decision-making	Translation of the statutory requirements into computer code may not take account of judicial determinations on the meaning of statutory provisions, or be able to deal with the nuances in the principles of statutory interpretation. ⁶
Faster decisions	A flawed fast decision may ultimately lead to much delay in the finalisation of the matter or matters if public pressure to correct it or litigation ensues.
Less bias	Bias can be inbuilt due to the nature and limitation of the inputs/databases used. Further, there can be bias arising from the susceptibility of humans to defer to, or place particular reliance on, computer-generated outputs. ⁷
Fairer generally and better access to justice for historically marginalised populations ⁸	Not fairer if the output is flawed in the manner otherwise referred to in this column, and the recipient of the decision is unable to understand. May not accord with the fundamental concepts of law and risk regulation, and the current statutory frameworks.
Less costly administrative processes and staffing in decision-making	Danger that if something goes wrong, and the AI process has been replicated in many other decisions or processes, there will be a high cost in reparation of the damage done (eg robodebt).
Acceptance by many consumers of decisions made by computers in preference to humans	Less human interaction in the process/dehumanisation with possible lack of confidence/trust in the system and decision. Accountability, ie who made the decision, or who will be accountable if the AI system made the decision?
Communication of the decision can be standardised but also readily converted or produced in a form suitable for a variety of taxpayers of different cultural and ethnic backgrounds	Rigidity of decision-making. ⁹ Lacks the flexibility to make equitable decisions or adjust the rules for hard cases. Lack of transparency, including that decisions can be impenetrable (ie the “black box” problem).
Lack of regulation assists innovation in this area	Little regulation in place at present as to the use of AI in government and industry. The adoption of legislation enabling the use of AI (which is gradually occurring) should be balanced with safeguards regarding use and protection of the legal standards now in place for decision-making by humans.

The disquiet we may feel about the escalation in the use of this technology in regard to government decision-making arises due to the difficulties of assimilating it with the central part traditionally played by humans in government decision-making. Decision-makers are expected to be able to provide reasons for their decisions as part of the general concepts of administrative law and the rule of law. As succinctly put by a commentator:¹⁰

“... authority without reason is literally dehumanising.”

Not all AI systems are designed to provide reasons for the outcome of the system’s analysis. Further, even if the ability to provide reasons is programmed into the system when the system is first developed, as it refreshes and develops over time, it may cease to be possible for the reasons to be extracted. An AI system (with machine learning capability) can change its own decision-making criteria depending on the design of the system and the context in which it is being used.

The trick or “million dollar question” is how to take advantage of the benefits of AI, and minimise the risks. The commentary on

this area ranges from dire predictions of a robotic supremacy to extravagant claims that utopia awaits the adopters of AI. As is usually the case, the truth and answer lie somewhere in between.

Status of AI in Australia

Some commentators consider that to protect revenue, tax agencies have little choice but to use AI.¹¹ Indeed, it appears that the US, Canada and Australia (naming only a few) have committed to the transformation to digital tax administration.¹²

The ATO has a “digital by default” approach to interacting with taxpayers,¹³ and has acknowledged that it is increasing investment in the use of “automation and artificial intelligence to enhance the client experience and integrity in the system”.¹⁴

In regard to the states and territories, Queensland has its revenue management system (RMS) and an online bot called “Sam” for answering queries. In 2017, the Queensland Government approved the OSR Transformation Program to provide “next generation tax and revenue capabilities”, with funding of \$80.9m

over five years.¹⁵ It is understood that the other jurisdictions have similar systems and aspirations for revenue collection management, and to some extent, AI including machine learning is already being utilised.

In addition, the federal government is strongly advocating that industry and government agencies become involved in AI development and use. The Department of Industry, Science, Energy and Resources recently released *Australia’s AI action plan* (June 2021).¹⁶ In that document, it is stated that:¹⁷

“... AI could contribute more than \$20 trillion dollars to the global economy by 2030.”

and:

“up to \$315 billion to [Australia’s] economy by 2028.”

Money was allocated in the current 2021–22 Budget for new measures as outlined in the action plan.

The *AI action plan* appears to be a call to industry and government to get on board, before we miss the boat with AI innovation and use. The plan refers to one focus area, relevant to the issue of preparation and the

protections needed to embrace the new technology, ie “Making Australia a global leader in responsible and inclusive AI”. There is reference to proposals to amend the *Privacy Act 1988* (Cth) to “empower consumers, protect their data, and best serve the Australian economy”. There is also to be a “consumer data right” (apparently through the Data Availability and Transparency Bill 2020 (DAT Bill)),¹⁸ which is to give consumers more choice and control about how their data is used and shared.

The *AI action plan* recognises the need to minimise “negative outcomes”, and that a “lack of trust in AI technology will continue to be a major barrier to adopting and applying AI”.¹⁹ *Australia’s AI ethics principles*, released by the Australian Government in 2019, are also referred to as being a means of reducing the risks of the negative impacts of AI and ensuring good governance standards.²⁰

The *AI action plan* refers to the recently released Australian Human Rights Commission report, *Human rights and technology*, and states that the government will “consider” this report.²¹ However, it is understood that there is as yet no commitment to implement its recommendations.

It is interesting to note that the *AI action plan* refers to the establishment of a National AI Centre (within the CSIRO Data 61 area), and four Digital Capability Centres in the 2021–22 year. However, these appear to be agencies directed at enabling business, rather than regulatory bodies. In contrast, the Human Rights Commission report advocates the establishment of an “AI Safety Commissioner” as necessary “to support regulators, policy makers, government and business apply laws and standards in respect of AI-informed decision making”.²²

Australia is also a member of the Global Partnership on Artificial Intelligence (GPAI) with 14 other member countries, which was launched in June 2020. To date, only preliminary reports, in November 2020 and 2021, appear to have been released by this group.

The legislative and international initiatives of the Commonwealth will be important to follow, and states and territories may well need to consider similar amendments to their privacy legislation and the adoption of legislation complementary to the DAT Bill to keep in step with the Commonwealth,

and to provide a level of protection in areas of state and territory jurisdiction.

The information technology industry

The information technology (IT) industry is alive to the issue of the need to generate trust in AI systems, no doubt to assist in the development of this area of their business. For example, IBM has various toolkits and resources on its webpage that it claims seek to deal with the issue of trust from a technical/scientific point of view. The tools are aimed at addressing fairness, value alignment, robustness, “explainability”, transparency and accountability.²³

However, a report by Philip Alston, the UN Special Rapporteur on Extreme Poverty and Human Rights, to the UN General Assembly on digital welfare systems²⁴ identified a reluctance of the private sector to take human rights systematically into account in designing their systems. It was noted also that governments are somewhat reluctant to regulate technology firms, for fear of stifling innovation.²⁵

Legal issues that can arise through AI use

Rule of law, administrative law and associated issues

At a basic level, the concept of the rule of law is that “society should be governed by law”.²⁶ For the rule of law to be acceptable to society, it requires that the law be predictable, stable, accessible and all should be equal before the law. This requires that government must be transparent and accountable in respect of the making of laws and the decisions it makes under those laws.

The basis of administrative law is fundamentally the court’s role and responsibility to uphold the rule of law.²⁷ The tension that has arisen, and will continue to arise, in regard to the use of AI in assisting or making decisions, particularly in the context of decision-making powers derived from statute.

In interpreting statutes, to discern the meaning and extent of the provision, a distinction is made at law between:

- an outcome of the operation of the provision, without a decision being required (ie that applies by “operation of law”);

- a provision that requires a decision to be made that involves making an “evaluative judgment”; and
- a provision that involves an exercise of discretion by the decision-maker.²⁸

The first of these potential outcomes does not involve a decision by a person or entity. Automation may be a useful tool to obtain greater efficiencies in the processing of outcomes of such provisions, eg the rejection of an application where mandatory steps or documents have not been provided. From an administrative law standpoint, there may be little that is at risk in such a use, provided that automation is designed strictly to follow the legislative provisions being applied. The case of *Buck v Comcare*²⁹ is an example of a case concerning a self-executing provision that was not considered to be a decision enlivening the *Administrative Decisions (Judicial Review) Act 1977* (Cth) (ADJR Act).

In regard to the latter two kinds of provisions, the question, where AI is used in the decision-making process, is whether there was a decision at all. This has ramifications for the jurisdiction of both the merits review procedures of tribunals, and also judicial review by the higher courts, as the starting point is that a decision has been made.

The leading case on the issue is the Full Federal Court’s decision in *Pintarich v DCT*.³⁰ This case stands for the principle that there must be a human element to the making of a “decision”, absent which no decision is made (subject to any statutory provision altering that conclusion). The majority in *Pintarich* found that, for there to be a valid decision, there:³¹

“... needs to be both a mental process of reaching a conclusion and an objective manifestation of that conclusion.”

There has been criticism of the majority decision by some commentators.³² Further, the dissenting judgment of Kerr J points to the uncertainty and incongruities that may arise from the majority decision regarding whether a decision manifested by an overt act, but without the necessary mental element, is reviewable under the ADJR Act. Similar consequences may arise in the context of the state equivalents of the ADJR Act. However, *Pintarich* is still the leading appellate court authority on the issue of what a “decision” is in the administrative law context.

Further, if the situation involves the third kind of provision above, and the section

provides for the exercise of a discretion, there can be a question as to whether the use of automated systems places an unlawful fetter on the exercise of the discretion of the decision-maker. The Administrative Review Council took the firm view some years ago that:³³

“... the automation of discretion is not in accordance with the administrative law values of lawfulness and fairness because it could fetter the decision maker in the exercise of their discretionary power.”

However, it is not always clear-cut whether the provision is granting a discretion or not: it is a matter of statutory interpretation. In general terms, a discretion is characterised by a decision-maker being empowered to reach a decision where, based on the same set of facts and circumstances, a different decision-maker might reach a different decision, but both decisions could be regarded as being permitted.³⁴

The overuse, or poorly planned use, of AI in the process of the decision-maker coming to a decision involving the exercise of discretion could be considered to be similar to the over-reliance of government officers on blanket policies that do not permit a proper consideration of the individual circumstances of the case.³⁵

Other potential areas where the misuse of AI could lead to legal causes of action include where it is found that the action or decision is ultra vires the statutory power, or that the decision is affected by bias (possibly including where the bias may not be directly attributable to a human, but to a flawed AI system).

Essentially, care needs to be taken as to what the particular provision requires, as to whether or not a human being must be involved in the issue of the relevant document or decision to a taxpayer. For example, there is a line of Court of Appeal and Tribunal decisions emerging from England and Wales in recent years on whether computer-generated notices/correspondences were lawfully issued under a generic policy decision by a human that imposed penalties for default by means of such notices.³⁶ Ultimately, the issue was dealt with by an amendment to the legislation to put the issue beyond doubt.³⁷

Human rights issues

Human rights legislation is largely state-based at present, and differs from jurisdiction to jurisdiction.

Taking the relatively new *Human Rights Act 2019* (Qld) (HR Act) as an example, it is noted that this Act makes it unlawful for a public entity to act or make a decision in a way that is not compatible with human rights, or in making a decision, to fail to give proper consideration to a human right relevant to the decision. However, a failure to observe these obligations does not invalidate the decision. To enforce the rights, a person would need to have another cause of action to which the human rights allegations could be attached (eg grounds for judicial review). Alternatively, it may be the subject of a complaint to the Human Rights Commissioner.

Having regard to the extent of the commentary on the potential for the adverse effects of AI on human rights, particularly in the area of machine learning, it seems likely that reliance will be placed on such legislation in future legal actions taken in regard to AI misuse.

At the Commonwealth level, there is the Australian Human Rights Commission, established under the *Australian Human Rights Commission Act 1986* (Cth), which has recently issued its comprehensive *Human rights and technology report*. That report is particularly relevant to our topic, and we recommend it as a good overview of the risks and challenges in this area at this point in time, it also includes useful references to articles and materials.

Privacy issues

As indicated above, there appears to be recognition at the federal level that the *Privacy Act 1988* will need to be amended to provide additional safeguards for consumers.

The case of *Privacy Commissioner v Telstra Corporation Ltd*³⁸ is illustrative of the limitations of the current legislation in enabling access by individuals to metadata held by government agencies. In that case, it was determined that the words “about an individual” in the definition of “personal information” in s 6 of the *Privacy Act 1988* had the effect that Mr Grubb was not entitled to all of the metadata information that Telstra stored regarding his mobile phone service.³⁹

In contrast, internationally, action was successfully taken in *Dutch Jurist Committee on Human Rights v the State of the Netherlands*⁴⁰ regarding a system (backed by legislation) used by the Dutch Government to detect various forms of

fraud, including social benefits, allowances and taxes fraud. The system involved matching data across 17 categories of government records, including tax records, to identify specific neighbourhoods with high numbers of low-income and immigrant residents, who were targeted for investigation.

The claim was that this legislation and system did not comply with art 8 of the *European Convention on Human Rights* (ECHR). That article protects the right to respect for private and family life, home and correspondence. It was considered that the Netherlands had a “special responsibility when applying new technologies”, and the use of the system was insufficiently transparent and verifiable. It therefore found the legislation to be unlawful.

Although this case could not be run in Australia at present on this basis, the amendments sought by the Office of the Australian Information Commissioner in submissions to the federal review of the *Privacy Act 1988* could, if adopted, result in further actions being available under that legislation.⁴¹

Summary of the impact of these issues

In summary, nothing replaces close consideration of the operative provisions of the legislation, and the automated processes being adopted, to determine the limits within which AI may be used under each such provision.

Additionally, where legislation facilitates or circumscribes AI, this must be taken into account.

Recent cases and examples relevant to AI

When things have gone wrong so far in the AI journey, they have gone spectacularly wrong. In addition to the Netherlands case referred to above, the following is an outline of the more notable examples of AI issues internationally, not all of which have involved government decision-making.

Robodebt

There has been much written about the ill-fated Centrelink automated online compliance intervention system, commonly referred to as “robodebt”. The system involved data-matching between information held by Centrelink and income data from the ATO. However, the algorithm used a fortnightly average of the income

data, rather than the actual amount of income earned in any fortnight. Letters were automatically sent to recipients of benefits on the basis of the analysis of the algorithm, without manual review. Effectively, the letters required the recipients to provide evidence of their income for six years or more in order to rebut the conclusion drawn by the algorithm. After more than three years of media, political and legal criticism, Services Australia announced it would cease the program in November 2019. Subsequently, a class action brought by persons affected by the scheme was settled for over \$1.8b in June 2021.⁴² In the reasons for judgment when approving the settlement, Murphy J stated that the proceeding had “exposed a shameful chapter in the administration of the Commonwealth social security system and massive failure of public administration”.⁴³ Much of the criticism for this outcome cannot be directed to the AI system itself. Instead, there must be questions asked of those who determined the policy to use data covering just a few weeks of income as the basis for making assumptions as to debts being owed, and who failed to take action to correct the system when it became apparent that the reasoning and process was flawed.⁴⁴

It is interesting to speculate how the outcome of this program could have been avoided. For instance:

- if there had been closer attention paid to the preconditions for raising a debt in ss 1222A and 1223 of the *Social Security Act 1991* (Cth), and the inclusion of them in the algorithm or checking mechanisms;
- if the algorithm did no more than to identify the suspect transactions and further checks were undertaken by officers, prior to action being taken; and
- if the letters were not written in the style they were,

the program may have escaped much or all of the criticism and financial penalty.

UK Post Office agency prosecutions

Somewhat similarly, in the United Kingdom, a software programme titled “Horizon” was employed by the Post Office to assist in investigations into the operations of their contracted sub-postmasters, and the payment due from the Post Office for the amount of business conducted by the branch. By use of the program, accounting shortfalls were identified, for which the

Post Office held the sub-postmasters responsible.⁴⁵ It was for the sub-postmasters to disprove the allegation of the shortfall. Some sub-postmasters paid what was claimed, some were able to point to discrepancies, but others had their contracts terminated or were privately prosecuted by the Post Office (ie 918 successful prosecutions over 24 years).

Ultimately, the Court of Appeal overturned 42 convictions. A civil action also resulted in 550 claimants receiving £57.75m. Again, the Post Office received trenchant criticism in the media, in the political arena and in the courts for its oppressive behaviour.⁴⁶

Automatic bitcoin trading

A recent case from Singapore demonstrates the risk of AI outside of government regulation, and the ability of the courts to develop novel approaches to common law principles. In *Quoine Pte Ltd v B2C2 Ltd*,⁴⁷ the Court of Appeal had to deal with the aftermath of a glitch arising between a bitcoin currency trader’s algorithmic trading program and the trading platform’s program, which resulted in automatic trades of bitcoin at 1/250th of the true value of the currency at the time. The court had to determine how the concept of mistake in contract applied when the trade/contract was effectively between the two programs. The majority of the Court of Appeal looked to the intentions and knowledge of the programmers, up to the time of the formation of the contract, even though they were not involved in the trading itself.⁴⁸ Ultimately, the action by the trading company to unwind the trades and recover its losses failed on this ground of mistake, as well as unjust enrichment.

Thaler v Commissioner of Patents⁴⁹

In addition to these cases providing salutary lessons on the areas of risk associated with AI, there has been a recent case in patent law exploring the ability of an AI system to be classed as an “inventor” for the purposes of the *Patents Act 1990* (Cth): *Thaler v Commissioner of Patents*. In that case, Beach J found that it was indeed possible and ruled accordingly, although it should be noted that the Applicant for the patent was still required to be a legal entity. Dr Thaler was the owner of the copyright in a computer system called DABUS, and he was also the owner, operator and person responsible for that system. However, he claimed not to be the inventor, as “the invention was autonomously generated by an artificial intelligence”,⁵⁰ that is, the system

titled DABUS developed the invention via machine learning through its “artificial neural networks”, a sophisticated form of machine learning. The case is currently on appeal to the Full Court of the Federal Court, and is being watched not only in Australia, but also by many overseas.

Establishing a robust “robo” system relevant to taxing authorities

The following are some considerations for tax agencies, and also practitioners dealing with these agencies, regarding the effect of AI on decision-making.

Statutory support for AI use

There is legislative support for the use of AI in regard to taxation administration in all jurisdictions (largely in common with other taxation legislation internationally) in the general evidentiary provisions, such as those deeming the validity of an assessment or certificate issued by the Commissioner or a delegate.

Some jurisdictions have started to go further in partly or wholly deeming decisions made by or with the assistance of a computer as being decisions made by the agency itself. Examples in the tax arena are s 153B of the *Taxation Administration Act 2001* (Qld), s 105 of the *Tax Administration Act 1994* (NZ) and s 103 of the *Finance Act 2020* (UK).⁵¹ These provisions are set out for ease of reference in Annexure A.

However, any legislative provision that simply enables the use of AI will not be sufficient to deal with all of the legal risks associated with its use, as outlined in this paper. Indeed, some commentators are querying if the shift to the use of AI in taxation administration will require that there be a reconsideration of the balance between taxpayer rights and tax authority accountability.⁵² Accordingly, there may be calls for a whittling down of the current statutory protections, unless other measures are taken to ensure that taxpayer rights are protected.

Although the common law principles of administrative law, and even contract and tort law, could be the basis of the development of additional safeguards for taxpayers in regard to the increasing use of AI, the evolution of these principles will necessarily be piecemeal and unlikely to match the pace of change currently occurring. Many commentators consider that the principal response must be legislative.⁵³ The United Kingdom, the European Union and the United States

have, or are developing, legislative frameworks for the regulation of the use of AI, which may ultimately provide some guidance for Australian legislators.⁵⁴

It would seem to be advisable for tax agencies (like all government agencies), even in the absence of regulation, to start taking practical steps to prepare for the greater use of AI. For example, a review of the legislation for which they are responsible should be conducted to identify where AI is likely to be used, and where there may be tensions between such use and the requirements of the legislation (eg provisions requiring judgment or the exercise of a discretion). Appropriate steps and safeguards can then be determined in order that the power being granted in the particular section, in the context of the Act as a whole, is exercised according to law.

Advisers to taxpayers and taxing authorities will need to keep abreast of, and contribute to, policy development for the legislative schemes, which are expected to be developed in the near future.

Design of the automated system

A good start for taxing agencies in designing and implementing the use of automation is to consider the guidelines set by the *Automated assistance in administrative decision-making: better practice guide* (2007). This remains a recognised basis upon which to formulate the policies and systems involved in the greater implementation of automated systems. Consideration should also be given to the recently released Human Rights Commission report to ensure that the pitfalls identified there are managed. The federal government's AI ethical principles will also assist to guide developments in this area.⁵⁵

Any system of automation will only be as good as the current policies and procedures in the manual system, and the unbiased data inputted.⁵⁶ In a conversion to AI, the manual system should be comprehensively documented, and reviewed for consistency with the legislation and case law so as to try to avoid the AI system inheriting ingrained flaws and biases. The involvement of lawyers, or persons with legal training/risk management, would appear to be essential to assist in the design of the software steps and decision tree so as to reduce the risk of errors occurring.

Data matching exercises need to be carefully considered to ensure that, to

the extent possible, there are no flaws or inbuilt biases in the data. Ideally, the system should be tested or audited regularly to ensure that the parameters set are appropriate. The testing of such systems on a small scale before roll out is imperative. Such testing evidence may become crucial should decisions based on the use of the AI be taken on review to a tribunal or court.

To the extent possible with current technology, the IT system should have the capacity to provide reasons for the determinations being made. This may be difficult the further along the machine learning path the system has progressed, as some machine learning outcomes may not be readily understandable by humans. There are, however, some indications that the IT industry is alive to the need to be able to build into their systems the ability of the program to provide "reasons". Whether the development of this capacity will be given priority in order to keep pace with the use of more advanced AI systems will be the question.

Keeping the human in the loop, and interaction with taxpayers

Taxing agencies need to consider when, in the process, hard cases will be able to be diverted to human intervention, or when further information should be requested from the taxpayer. Such steps would assist to ensure that the system does not become too rigid or unresponsive to individual circumstances. However, it is also noted that some commentators consider that keeping a human in the loop may unduly fetter the decision-makers' discretion and afford insufficient protection against mistakes.⁵⁷ There is also the danger that the involvement of a human in the process may be too nominal such that the person merely rubber-stamps the determination indicated by the computer.⁵⁸

Including a step or a process of advising taxpayers that the decision affecting them has been in part made through AI use is in keeping with international developments. In the UK, s 14(4) of the *Data Protection Act 2018* (UK) specifically provides for notification to a person who has been the subject of a decision that has occurred through automated processing, and gives rights for the person to request a reconsideration of the decision. In Australia, the Australian Human Rights Commission has recommended, in its *Human rights and technology* report, that the Commonwealth introduce legislation

to require that such a notification occur, where AI is "materially used" in making an administrative decision.⁵⁹

Formal opportunities to seek a review also still need to be provided at appropriate decision-making points. This is already largely dealt with by means of merits reviews of decisions through administrative review tribunals. However, having regard to the decision in *Pintarich*, it may need to be clarified that the outcome of the AI system is still a "decision" reviewable under those schemes. In addition, there may well be difficulties that will arise in the future if the tribunal is unable to understand how the agency made its decision, and as to what, in those circumstances, is the "correct and preferable" decision.

Conclusion

This article provides a mere overview of the key developments in this area, with signposts to resources that may be useful to the reader.

We appear to be in a time of great change in regard to the use of AI, and as is generally the case, the development of the law and the safeguards is lagging. It will be necessary to continue to monitor this fast-changing landscape of AI in the areas of law identified above, and how, in particular, the federal, state and territory governments deal with the challenges.

Hopefully, the consequences of the inevitable adoption of AI in regard to taxation regimes does not lead us down the path of *The Matrix*, where the character Morpheus said:

"Throughout human history, we have been dependent on machines to survive. Fate, it seems, is not without a sense of irony."

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Disclaimer

The material and opinions in this article are those of the authors and not those of The Tax Institute. The material and opinions in the article should not be used or treated as professional advice and readers should rely on their own enquiries in making any decisions concerning their own interests.

Annexure A

Comparison of Qld, NZ and UK provisions

Queensland

Taxation Administration Act 2001

"153B Commissioner may arrange for use of an approved information system to make particular decisions"

- (1) The commissioner may arrange for the use of an approved information system for any purposes for which the commissioner may make a relevant decision under a tax law.
- (2) A relevant decision made by the operation of an approved information system under an arrangement made under subsection (1) is taken to be a decision made by the commissioner.
- (3) In this section—

relevant decision means a decision that does not involve the exercise of the commissioner's discretion."

New Zealand

Taxation Administration Act 1994

"105 Assessments and determinations made by electronic means"

Any assessment or determination made by the Commissioner for the purposes of any of the Inland Revenue Acts that is made automatically by a computer or other electronic means in response to or as a result of information entered or held in the computer or other electronic medium shall be treated as an assessment or determination made by or under the properly delegated authority of the Commissioner."

United Kingdom

Finance Act 2020

"103 HMRC: exercise of officer functions"

- (1) Anything capable of being done by an officer of Revenue and Customs by virtue of a function conferred by or under an enactment relating to taxation may be done by HMRC (whether by means involving the use of a computer or otherwise).
- (2) Accordingly, it follows that HMRC may (among other things)—
 - (a) give a notice under section 8, 8A or 12AA of TMA 1970 (notice to file personal, trustee or partnership return);
 - (b) amend a return under section 9ZB of that Act (correction of personal or trustee return);
 - (c) make an assessment to tax in accordance with section 30A of that Act (assessing procedure);

- (d) make a determination under section 100 of that Act (determination of penalties);
 - (e) give a notice under paragraph 3 of Schedule 18 to FA 1998 (notice to file company tax return);
 - (f) make a determination under paragraph 2 or 3 of Schedule 14 to FA 2003 (SDLT: determination of penalties).
- (3) Anything done by HMRC in accordance with subsection (1) has the same effect as it would have if done by an officer of Revenue and Customs (or, where the function is conferred on an officer of a particular kind, an officer of that kind).
 - (4) In this section—

"HMRC" means Her Majesty's Revenue and Customs;

references to an officer of Revenue and Customs include an officer of a particular kind, such as an officer authorised for the purposes of an enactment.
 - (5) This section is treated as always having been in force.
 - (6) However, this section does not apply in relation to anything mentioned in subsection (1) done by HMRC if—
 - (a) before 11 March 2020, a court or tribunal determined that the relevant act was of no effect because it was not done by an officer of Revenue and Customs (or an officer of a particular kind), and
 - (b) at the beginning of 11 March 2020, the order of the court or tribunal giving effect to that determination had not been set aside or overturned on appeal."

References

- 1 The rules were included in a 1942 short story called *Runaround*, also published as part of a collection of stories in, *I, Robot* in 1950.
- 2 MR Anderson, "After 75 years, Isaac Asimov's Three Laws of Robotics need updating", *The Conversation*, 17 March 2017. Available at www.theconversation.com.
- 3 CSIRO, Data 61 report, *Artificial intelligence*, 2019, p 2.
- 4 Definition of "machine learning" at www.dictionary.com.
- 5 See, generally, the discussion of risks and benefits in articles such as YF Ng, "Deliberation and automation", (2019) *AJ Admin L* 21 at 21; M Zalnieriute, L Bennet Moses and G Williams, "The rule of law and automation of government decision-making", (2019) 82(3) *Modern Law Review*; (2019) *UNSWLRS* 14 (Zalnieriute).
- 6 A Huggins, "Addressing disconnection: automated decision-making, administrative law and regulatory reform", (2021) 44(3) *UNSW Law Journal* 1048 (Huggins) at 1053–1054.
- 7 Huggins, pp 1065–1066.
- 8 Zalnieriute, p 2, citing P Gowder, "Transformative legal technology and the rule of law", (2018) 68 *supp 1 University Toronto Law Journal* 82.

- 9 P Sales (Lord), "Algorithms, artificial intelligence, and the law", (2021) 105(1) *Judicature International*, Bolch Judicial Institute, *Duke Law School* (Sales).
- 10 JL Mashaw, "Public reason and administrative legitimacy", in J Bell and others (eds), *Public law adjudication in common law systems, process and substance*, Hart Publishing, Oxford, 2016, p 11 at p 17, as referred to in J Palairt, "Reason-giving in the age of algorithms", (2020) 26 *Auckland U L Rev* 92.
- 11 D Bentley, "Timeless principles of taxpayer protection: how they adapt to digital disruption", (2019) 16(3) *eJournal of Tax Research* 679 at 683.
- 12 J Bevacqua, "Tax authority immunity in a digital tax administration world", (2020) 18(2) *eJournal of Tax Research* 402 at 403 (Bevacqua).
- 13 Australian Taxation Office, *ATO leads digital by default*, 30 November 2015, as referred to in Bevacqua at p 403.
- 14 Australian Commissioner of Taxation, foreword, *ATO corporate plan 2019–20*, as referred to in Bevacqua at p 406.
- 15 Queensland Treasury, *Queensland Better Regulation (QBR) annual report 2018–19*. Available at <https://s3.treasury.qld.gov.au/files/Qld-Better-Regulation-Annual-Report-201819.pdf>.
- 16 Australian Government, Department of Industry, Science, Energy and Resources, *Australia's AI action plan*, June 2021 (*AI action plan*). Available at www.industry.gov.au/data-and-publications/australias-artificial-intelligence-action-plan.
- 17 *Ibid* pp 1 and 3.
- 18 The Bill was introduced to parliament on 9 December 2020, but remains at present before the House of Representatives. The Finance and Public Administration Legislation Committee of the House of Representatives took evidence on 28 April 2021, but has not yet reported.
- 19 *AI action plan*, p 19.
- 20 The *Techtonic 2.0: National Artificial Intelligence Summit*, held online in June 2021, included details on some company case studies and findings from a pilot project in respect of the use of the AI ethics framework. Available at www.industry.gov.au/data-and-publications/techtonic-20/stream-1-putting-the-ai-ethics-principles-into-practice.
- 21 *Ibid*.
- 22 AHRC, *Human rights and technology final report (2021)*, 27 May 2021, p 187.
- 23 See IBM, *Trusted AI*. Available at www.research.ibm.com/artificial-intelligence/trusted-ai/#featured-work.
- 24 Human Rights Council Resolution 35/19, UN Doc A/74/48037, 18 October 2019.
- 25 Sales, p 26.
- 26 Zalnieriute, p 4.
- 27 J Palairt, "Reason-giving in the age of algorithms", (2020) 26 *Auckland U L Rev* 92 at 95.
- 28 See a discussion of these distinctions in the context of AI in Y-F Ng and M O'Sullivan, "Deliberation and automation – when is a decision a 'decision'?", (2019) 26(1) *Australian Journal of Administrative Law* 21.
- 29 [1996] FCA 1485.
- 30 [2018] FCAFC 79.
- 31 [2018] FCAFC 79 at [140].
- 32 See the discussion in Y-F Ng and M O'Sullivan, "Deliberation and automation – when is a decision a 'decision'?", (2019) 26(1) *Australian Journal of Administrative Law* 21 at 30.
- 33 Administrative Review Council, *Automated Assistance in Administrative Decision Making – Report to the Attorney-General*, report no. 46, November 2004, p 15. The commentator, Bevacqua, doubts that this stance will be able to be taken into the future due to the increasing use of AI: J Bevacqua, "Tax authority immunity in a digital tax administration world", (2020) 18(2) *eJournal of Tax Research* 402 at 424.

- 34 *Norbis v Norbis* (1986) 161 CLR 513 per Mason and Deane JJ at 518.
- 35 There is a common law rule against fettering, which is also recognised in judicial review legislation. See M Aronson, M Groves and G Weeks, *Judicial review of administrative action and government liability*, 6th ed, Law Book Co, 2017, para 5.250.
- 36 *Donaldson v The Commissioners for HMRC* [2016] EWCA Civ 761. However, see *Khan Properties Ltd v HMRC* [2017] UKFTT 830 (TCC), where the tribunal found that a “flesh and blood human being who is an officer of the HMRC” needed to make the assessment as to imposition of a penalty, which could then be implemented by the computer (at [23]). The decision in *Khan* was distinguished in both *Gilbert v HMRC* [2018] UKFTT 0437 and *Campbell v HMRC* [2019] UKFTT 454. See also *HMRC v Rogers* [2019] UKUT 0406 (TCC).
- 37 S 103 of the *Finance Act 2020* (UK), as extracted in Annexure A. See discussion below as to a comparison of some legislative mechanisms to provide for the use of AI and computers in statutory processes.
- 38 [2017] FCAFC 4.
- 39 [2017] FCAFC 4 at [2] per Dowsett J.
- 40 C/09/550982/HA ZA 18-388.
- 41 Amendments are sought to address the Telstra case referred to above. Also, the submission of the OAIC recommends the creation of a statutory tort for serious invasions of privacy and a broader direct right of action to enforce the Act, if not resolved through the OAIC processes: OAIC, “Executive summary”, *Privacy Act review – issues paper*. Available at www.oaic.gov.au/privacy/the-privacy-act/review-of-the-privacy-act/privacy-act-review-issues-paper-submission/.
- 42 *Prygodicz v Commonwealth of Australia* (No. 2) [2021] FCA 634 (*Prygodicz*); Huggins, p 1057.
- 43 [2021] FCA 634 at [5].
- 44 As indicated by Murphy J in *Prygodicz* at [5] and [6].
- 45 *Bates v Post Office Limited* (No. 3) [2019] EWHC 606 (QB) at [6]–[8].
- 46 [2019] EWHC 606 (QB) at [222]; see also *Hamilton v Post Office Limited* [2021] EWCA Crim 577.
- 47 [2020] SGCA(I) 02.
- 48 [2020] SGCA(I) 02 at [98] and [99]. See also a discussion of this case in Sales at p 31. It is noted that such an approach may not be of assistance where the systems involved have arrived at the action taken by means of machine learning.
- 49 [2021] FCA 879.
- 50 [2021] FCA 879 at [8].
- 51 There are also provisions in legislation outside of taxation legislation, eg s 6A of the *Social Security (Administration) Act 1999* (Cth); s 495A of the *Migration Act 1958* (Cth); s 66 of the *Business Names Registration Act 2011* (Cth); and s 7C(1) of the *Therapeutic Goods Act 1989* (Cth).
- 52 Bevacqua, pp 413–414; D Bentley, “Timeless principles of taxpayer protection: how they adapt to digital disruption”, 16(3) *eJournal of Tax Research* 679.
- 53 Sales, p 31; Huggins, pp 1072–1073.
- 54 For example, the *Data Protection Act 2018* (UK); European Commission, *Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules of artificial intelligence (Artificial Intelligence Act) and amending certain union legislative Acts*, document no. 52021PC0206, 21 April 2021; 116th Congress, s 1108, a Bill for the *Algorithmic Accountability Act of 2019*.
- 55 They are human societal and environmental wellbeing, human-centred values, fairness, privacy protection and security, reliability and safety, transparency and “explainability”, contestability and accountability: Australian Government, Department of Industry, Science, Energy and Resources, *Australia’s artificial intelligence framework*. Available at www.industry.gov.au/data-and-publications/australias-artificial-intelligence-ethics-framework/australias-ai-ethics-principles.
- 56 The Australian Human Rights Commission has released a technical paper on *Using artificial intelligence to make decisions: addressing the problem of algorithmic bias* (2020). It provides some recommendations on the steps to be taken to ensure the responsible use of AI and data.
- 57 J Palairet, “Reason-giving in the age of algorithms”, (2020) 26 *Auckland U L Rev* 92 at 93.
- 58 Huggins, p 1060.
- 59 See recommendation 3 of the AHRC, *Human rights and technology final report* (2021), 27 May 2021, p 281.