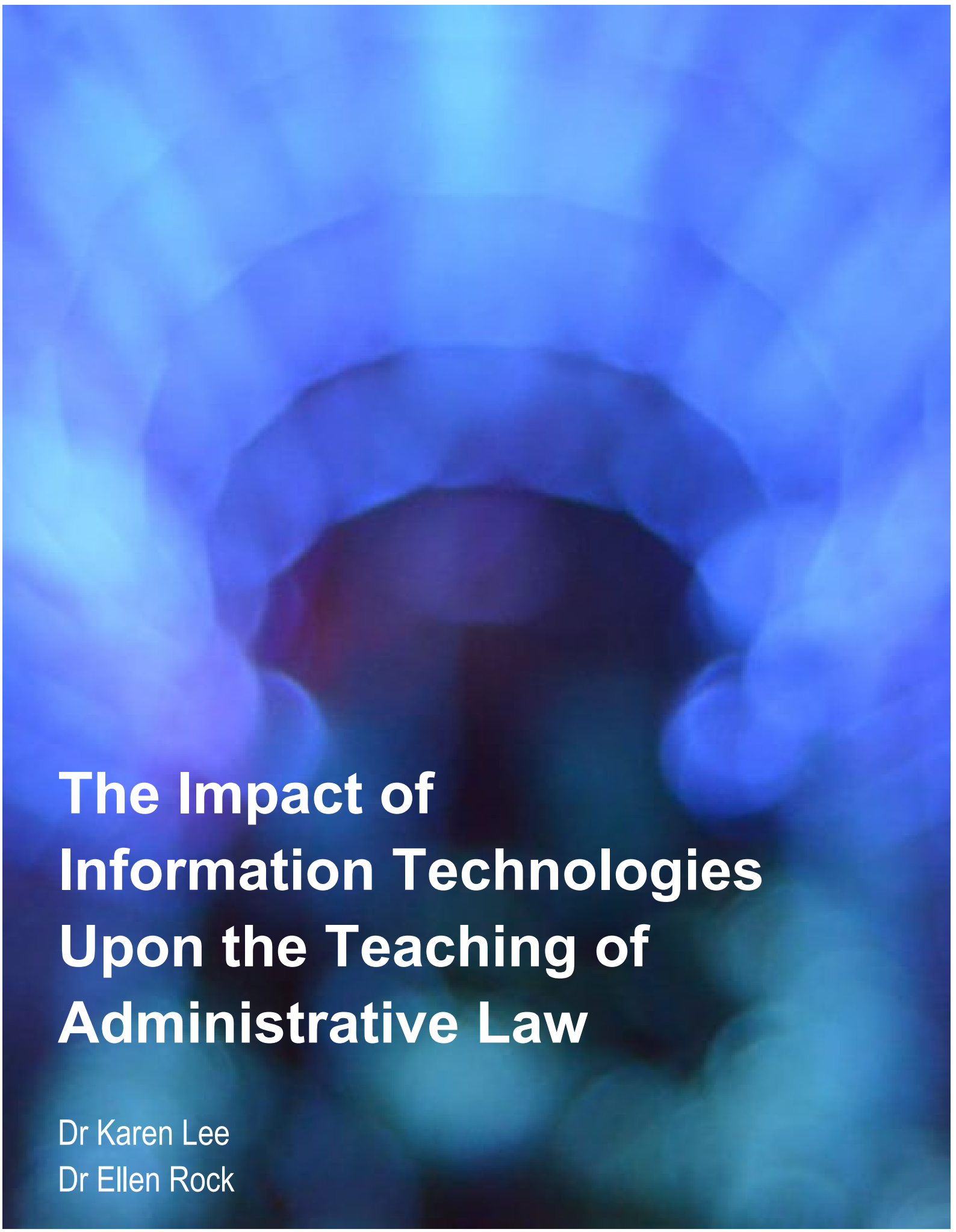

The Impact of Information Technologies Upon the Teaching of Administrative Law

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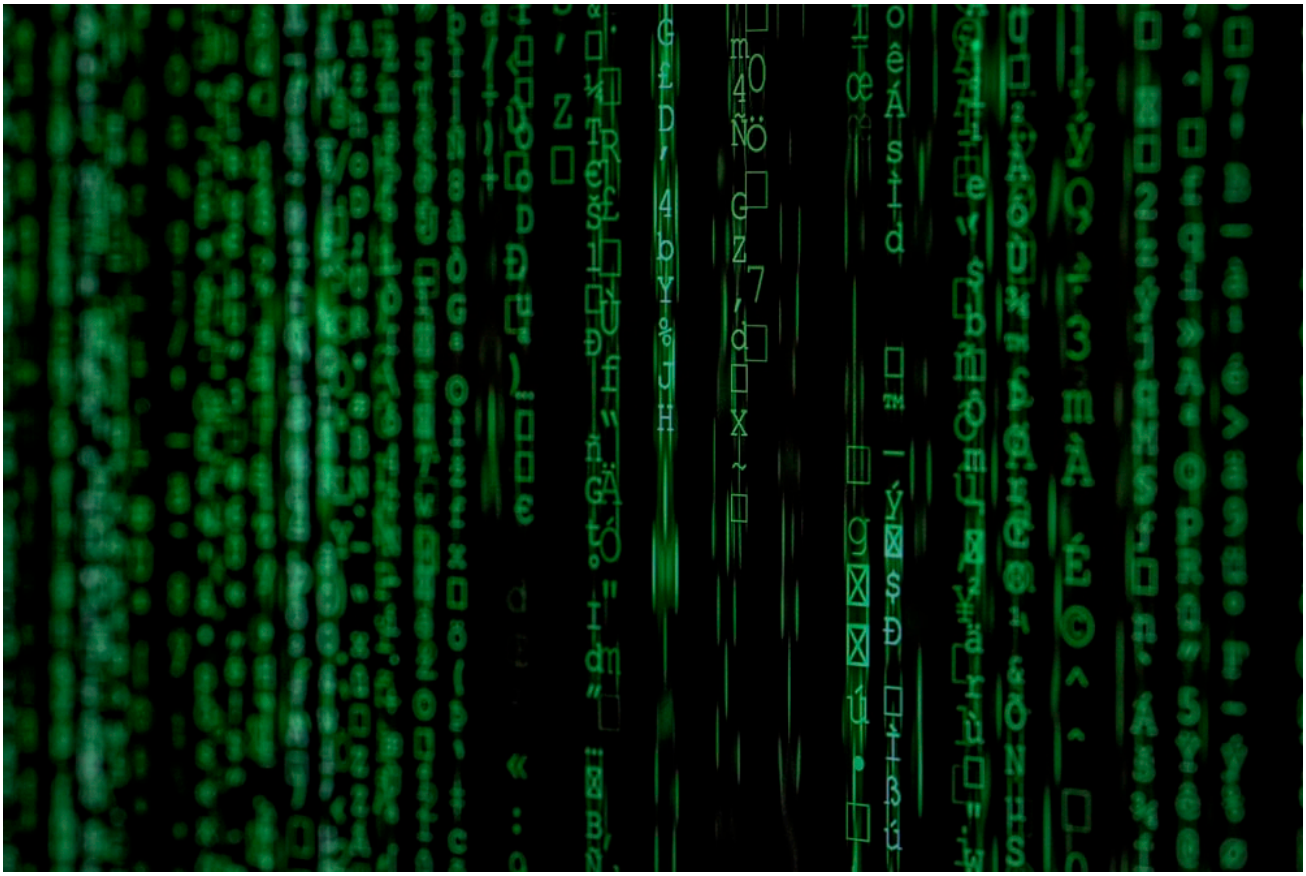
ABOUT THE CENTRE

The Centre for Professional Legal Education is a community of legal educators, researchers, practitioners and administrators who collaborate in defining, understanding and promoting best practice in the teaching of law. The work of the Centre has a particular emphasis upon the changing nature of professional legal education and training in the context of an internationalised, transformed and technology-enhanced legal services sector.

DISCLAIMER

LICENCE

ABOUT THE PROJECT



This Report was commissioned by the Bond University Centre for Professional Legal Education as part of the research project 'The Impact of Emergent Technologies Upon the Teaching of Core Law Units in the Australian Law Curriculum'.

The structure of the accredited Australian law degree – both the Bachelor of Law (LLB) and the Juris Doctor (JD) – continues to be determined primarily by the need to demonstrate coverage of the 'Priestley 11' (P11) prescribed areas of knowledge: administrative law, civil dispute resolution, company law, constitutional law, contract law, criminal law and procedure, equity, evidence, professional conduct, property law and tort law. The P11 areas of knowledge are taught via a series of core law units within the law degree, the content of which is relatively consistent across Australian law schools.

Meanwhile, the practice of law is undergoing rapid change, largely because of the emergence of disruptive digital technologies. There is a clear need for law schools to adjust the way law is taught to ensure law graduates continue to be effectively prepared for contemporary legal practice. Many of the recent reports regarding the future of legal education and of the legal profession call for an increased emphasis in the law curriculum upon teaching digital skills and knowledge of emergent technologies, equipping work-ready graduates for technology-enhanced or technology-centric practice, while at the same time emphasising the need to retain the existing emphasis upon more traditional legal knowledge and skills.

The challenge confronting Australian law schools is the fact that many of the legal academics responsible for teaching the core law units lack the time, resources and expertise to identify and evaluate the impact of emergent technologies upon the law curriculum. The objective of this Project is to assist Australian law schools to address this challenge.

The Project is investigating the impact of emergent technologies upon the teaching of the core law units in the Australian law curriculum. The Project Leadership Team has settled the overall research questions and method and identified six categories of emergent technologies (CETs).

CET	DESCRIPTION	EXAMPLES
Experiential technologies	New ways of experiencing the world around us	Virtual reality, augmented reality, mixed reality, digital twins
Body technologies	New ways of using our bodies	Wearables and implantables, genome editing
Information technologies	New ways of thinking, communicating, processing and storing information	Artificial intelligence, advanced machine learning, digital technology platforms, mesh app and service architecture, conversational systems, adaptive security architecture, inevitable architecture, big data, cloud computing, quantum computing, biometrics and digital id
Creative technologies	New ways of creating and making	3D printing, additive manufacturing, robots
Connection technologies	New ways of connecting	The internet of things, smart cities, intelligent things, intelligent apps, automated vehicles, bots/robots
Transaction technologies	New ways of transacting	Blockchains and distributed ledgers, cryptocurrencies, smart contracts, 'everything as a service'

Legal scholars from a variety of Australian law schools have been invited to identify the impact of each category of emergent technology upon each P11 area of knowledge, and to prepare a Report identifying the impact of particular emergent technologies upon a particular P11 area of knowledge and any consequent changes to the way the P11 area of knowledge should be taught.

The focus of this Report is upon the impact of information technologies upon the teaching of administrative law.

PROJECT LEADERSHIP TEAM

The current Project Leadership team is:

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The following former Leadership Team members made important contributions to the Project:

Associate Professor Tania Leiman	Flinders University
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WHAT ARE INFORMATION TECHNOLOGIES?

[A description of the relevant category of emergent technologies.]

'Information technologies' encompasses a wide variety of technologies, including cloud and quantum computing, mesh app and service architecture (MASA) and artificial intelligence (AI). However, the principal focus of this Report is on one aspect of AI – the technology of machine learning – and its possible use by Australian administrative decision-makers (ADMs).

Already used by private entities such as Amazon and Facebook,[1] machine learning involves the application of computer programs (also referred to as algorithms) to locate patterns in data to 'automate complex tasks or make predictions'.[2] These algorithms are said to 'learn' in a 'functional' sense because without being explicitly programmed[3] the statistical models embedded within them are 'capable of changing their behaviour to enhance their performance on some task through experience'.[4] There are numerous different types of algorithms used to support machine learning,[5] none of which can be summarised in detail here. However, all machine learning (regardless of its type) is said to consist of two 'workflows'.[6] In the first, the algorithm is 'trained' by processing 'large [historical] datasets provided by the system designer'.[7] In the second, the algorithm is deployed 'in the real world'[8] to make inferences and predictions based on 'new' data fed into the computer system.[9]

LITERATURE REVIEW

[A summary of current and likely future impact of the technologies upon the law in the P11 area of knowledge, and the way law in the area is administered, enforced and practised, according to recent scholarship and media commentary.]

ADMs in Australia have been using computer automation and algorithms for several decades. Since as early as 1998, Commonwealth and state ADMs have deployed various 'expert systems'[10] – computer programs that 'perform tasks that would ordinarily require human intelligence'.[11] Early expert systems were 'rule-based systems'—designed in consultation with ADMs—that assisted ADMs to make a decision, for example, by asking questions that merited consideration before applying statutory provisions and providing links to relevant case law and departmental policies.[12] More recently, expert systems are making decisions on behalf of ADMs.[13] Such decisions usually involve the application of 'clear, fixed and finite

[1] Cary Coglianese and David Lehr, 'Regulating by Robot: Administrative Decision Making in the Machine-Learning Era' (2017) 105 *Georgetown Law Journal* 1147, 1155-6; Deven R Desai, 'Exploration and Exploitation: An Essay on (Machine) Learning, Algorithms, and Information Provision' (2015) 47 *Loyola University Chicago Law Journal* 541.

[2] Harry Surden, 'Machine Learning and Law' (2014) 89 *Washington Law Review* 87, 89.

[3] Matthew U Scherer, 'Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies' (2016) 29 *Harvard Journal of Law & Technology* 353, 363 (n 37).

[4] Surden (n 2) 90.

[5] David Lehr and Paul Ohm, 'Playing with the Data: What Legal Scholars Should Learn About Machine Learning' (2017) 51 *University of California, Davis* 653, 669-70.

[6] Ibid 655.

[7] Jennifer Cobbe, 'Administrative Law and the Machines of Government: Judicial Review of Automated Public-Sector Decision-making' (2019) *Legal Studies* 1, 3. Lehr and Ohm argue that the first workflow can actually be broken down into seven stages. See (n 5) 672-701.

[8] Lehr and Ohm (n 5) 701.

[9] Cobbe (n 7).

[10] For examples, see Administrative Review Council (ARC), *Automated Assistance in Administrative Decision Making* (Report to the Attorney-General, November 2004) 57-64.

[11] Monika Zalnieriute, Lyria Bennett Moses and George Williams, 'The Rule of Law and Automation of Government' (2019) 82 *The Modern Law Review* 425, 432.

[12] ARC (n 10) 6.

[13] See, eg, Simon Elvery, 'How Algorithms Make Important Government Decisions — And How That Affects You', *ABC News* (Web Page, 21 July 2017) <https://www.abc.net.au/news/2017-07-21/algorithms-can-make-decisions-on-behalf-of-federal-ministers/8704858>.

criteria'[14] set by ADMs. However, advances in machine learning and other forms of artificial intelligence are increasingly making it possible to automate discretionary decision-making (ie, decisions that require ADMs to weigh evidence and apply subjective criteria). At the time of writing, ADMs are not using computer programs in this way, but given the on-going pressure to minimise costs, they may be in the near future. The Commonwealth government has adopted a digital transformation strategy[15] that (amongst other things) 'aims to use automated systems to eliminate almost all manual processing and case management, reducing the need for bespoke systems.'[16] The NSW government has said it will start to 'test AI/cognitive/machine learning for service improvement' and 'fully automate where appropriate'.[17]

In the small, but growing, body of Australian literature addressing the administrative law issues raised by the deployment of Information technologies, academics and other legal commentators have acknowledged that machine learning has the potential to enhance administrative decision-making by making it more accurate, consistent and efficient.[18] However, they have also expressed concerns that automating decision-making, especially discretionary decision-making that requires the evaluation of complex evidence, may not be compatible with administrative law principles.[19] For example, much of existing administrative law assumes ADMs are humans—beings with 'cognitive capacities' that can 'engage with the interpretive complexity of legal language' and are 'sensitive to highly dynamic social, economic and environmental conditions'[20]—and doubts exist that 'intelligent' software will ever have the capacity to meet these high thresholds. Equally, scholars have indicated that existing doctrines of judicial review may not adequately address potential problems raised by automated decision-making—problems such as bias in the underlying code.[21] At the same time, they are concerned that automated decision-making (discretionary or otherwise) may be immunised from statutory and/or common law judicial review because aggrieved parties are unable to establish that the courts have jurisdiction over this form of decision-making.[22] All are concerned that automated discretionary decision-making may not be consistent with the values of the rule of law—values such as transparency, accountability, predictability, consistency and equality before the law—that underpin judicial review and other facets of the administrative law system, including merits review.[23] UK[24] and US[25] academics have voiced similar concerns, although Coglianese and Lehr have concluded that use of machine learning can fit within administrative law 'parameters'.[26]

[14] Zalnieriute, Moses and Williams (n 11) 433.

[15] Digital Transformation Agency (Cth), *Vision 2025: We Will Deliver World-Leading Digital Services for the Benefit of All Australians* (2018).

[16] Anna Huggins, 'Automated Processes and Administrative Law: The Case of Pintarich' *Australian Public Law* (Blog Post, 14 November 2018) <https://auspublaw.org/2018/11/the-case-of-pintarich>.

[17] NSW Government, *Digital NSW: Designing Our Digital Future* (2019) 3.

[18] See, eg, John Carroll and Amanda Ryan, *Artificial Intelligence & Automated and Computer Assisted Decision Making in Government* (Clayton Utz, October 2018); Dominique Hogan-Doran, 'Computer Says "No": Automation, Algorithms and Artificial Intelligence in Government Decision-making (2017) 13 *The Judicial Review* 345, 346-7; Katie Miller, 'The Application of Administrative Law Principles to Technology-Assisted Decision-making' (2016) 86 *AIAL Forum* 20, 23, 24, 26; Yee-Fui Ng and Maria O'Sullivan, 'Deliberation and Automation – When is a Decision a "Decision"? (2019) 26 *Australian Journal of Administrative Law* 21, 21; Sarah Lim, 'Re-thinking Bias in the Age of Automation' (2019) 26 *Australian Journal of Administrative Law* 35, 35.

[19] See the sources in n 18 and Will Bateman, 'Algorithmic Decision-making and Legality: Public Law Dimensions' (2019) *Australian Law Journal* (forthcoming).

[20] Bateman (n 19) 5.

[21] Lim (n 18).

[22] Ng and O'Sullivan (n 18).

[23] See, eg, Zalnieriute, Moses and Williams (n 11); Monika Zalnieriute et al, 'From Rule of Law to Statute Drafting: Legal Issues for Algorithms in Government Decision-making' (University of New South Wales Law Research Series, 2019) 10-21; Terry Carney, 'Robo-debt Illegaility: The Seven Veils of Failed Guarantees of the Rule of Law? (2019) 44(1) *Alternative Law Journal* 1.

[24] See, eg, Cobbe (n 7); Carol Harlow and Richard Rawlings, 'Proceduralism and Automation: Challenges to the Values of Administrative Law in Elizabeth Fisher, Jeff King and Alison Young (eds), *The Foundations and Future of Public* Law (OUP, 2019) (forthcoming); Marion Oswald, 'Algorithm-assisted Decision-making in the Public Sector: Framing the Issues Using Administrative Law Rules Governing Discretionary Power' (2019) 376 *Philosophical Transactions A* 1; Rebecca A Williams, 'Rethinking Deference for Algorithmic Decision-making' (Oxford Legal Studies Research Paper No 7 , 2019).

[25] See, eg, Danielle Keats Citron, 'Technological Due Process' (2008) 85 *Washington University Law Review* 1249; Lilian Edwards and Michael Veale, 'Slave to the Algorithm? Why a "Right to an Explanation' is Probably Not the Remedy You Are Looking For' (2017) 16 *Duke Law & Technology Review* 18.

[26] Coglianese and Lehr (n 1).

PRACTITIONER PERSPECTIVES

[A summary of the views of various law teachers and legal practitioners regarding the current and likely future impact of the technologies upon the law in the P11 area of knowledge, and the way law in the area is administered, enforced and practised.]

Impact on Doctrine

Jurisdiction

Under current rules, automated decisions are unlikely to be reviewable. The High Court's power to award relief pursuant to s 75(v) of the Constitution is limited to cases brought against an 'officer of the Commonwealth'. Statutory review jurisdiction pursuant to the *Administrative Decisions (Judicial Review) Act 1977* (Cth) (ADJR Act) is predicated on the existence of a 'decision',[27] and a recent federal court decision has indicated that relief in respect of automated 'decisions' may be refused on the basis that they lack the required element of 'mental process'.[28] However, 'deeming provisions'—statutory provisions that deem a computer-generated decision to have been made by a specified decision-maker[29]—and other sub-sections of the Constitution and *Judiciary Act 1903* (Cth) may enable review.[30] Interviewees emphasised that the High

[27] *Administrative Decisions (Judicial Review) Act 1977* (Cth) s 5.

[28] Interview with Yee-Fui Ng, Senior Lecturer, Monash University (Ellen Rock, telephone interview, 18 October 2019); Interview with Janina Boughey, Senior Lecturer, University of New South Wales (Ellen Rock, email interview, 22 October 2019), both referring to *Pintarich v Deputy Commissioner of Taxation* [2018] FCAFC 79. See further Ng and O'Sullivan (n 18); Bateman (n 19); Katie Miller, '*Pintarich v Deputy Commissioner of Taxation* [2018] FCAFC 79: Accidents in Technology-Assisted Decision-making' (2018) 25 *Australian Journal of Administrative Law* 201.

[29] Interviews with Ng (n 28) and Boughey (n 28).

[30] Interview with Boughey (n 28), referring to s 39B(1A)(c) of the *Judiciary Act 1903* (Cth), which states that the Federal Court's original jurisdiction includes jurisdiction in any matter 'arising under any laws

Court was likely to retain a 'firm hand' in this area in any event,[31] given the recognition of 'an entrenched minimum provision of judicial review'.[32]

Grounds

In the absence of a statutory provision, ADMs may not have authority to delegate decision-making to automated systems.[33] Interviewees thought automated decision-making should trigger the duty of procedural fairness and require a decision-maker to explain how an automated decision-making process works, the information it took into account and how that information was processed.[34] The bias ground of review was also raised, but it was suggested it is not 'well suited to addressing' the problem of biased input data.[35]

Remedies and Entitlement to Reasons

If mandamus were sought, it might be difficult to argue a computer has a public duty to act. However, it was generally thought the statutes under which decisions are made, and the remedies themselves, have sufficient flexibility that courts would be able to award them.[36] More significant problems were the ability of an automated system using machine learning to provide rational justifications for its decisions that would satisfy the requirement of reasonableness, and the ability of those systems to produce reasons in a format that humans and judges can understand.[37]

Impact on Administration, Enforcement and Practice

ADMs will continue to automate their processes,[38] but they are not currently using machine learning and AI to make discretionary decisions. Those tools may be used to inform decision-making, but traditional processes of administrative decision-making are deployed when a 'decision' in law needs to be made.[39] It was suggested that for some large scale government welfare programs (eg, child care payments) which require thousands, or even millions, of payment decisions every week, it is only possible to promptly make original payment decisions by way of a computer. Because of the large number of applicants, it is in no one's interest to await a human decision-maker. However, within government there is no push to automate without a good reason.[40] Some smaller scale programs continue to be performed manually.[41]

Two practitioner interviewees believed automated decision-making would not substantially affect the traditional practice of administrative law.[42] However, a third practitioner thought automated decision-making and the increased use of other software by tribunals, such as the NSW Civil and Administrative Tribunal (NCAT), was already affecting the way administrative law is practised.[43]

It was also suggested that permitting automated decision-making, but making it subject to internal review by a human in the relevant government department or agency, was the best way to balance the obvious need for improved governmental efficiency with existing administrative law safeguards.[44] However, internal review can be subject to significant delay and requires adequate resourcing.[45]

made by the Parliament, other than a matter in respect of which a criminal prosecution is instituted or any other criminal matter'.

[31] Interview with John Carroll, Partner, Clayton Utz (Karen Lee, telephone interview, 24 October 2019).

[32] *Plaintiff S157/2002 v Commonwealth* (2003) 211 CLR 476, 513 [103].

[33] Interviews with Carroll (n 31) and Boughey (n 28). For discussion of whether these deeming provisions overcome the problem, see Bateman (n 19) 11-12.

[34] Interview with Ng (n 28). However, there is a more conservative view that holds that there is no obligation of procedural fairness unless a machine-generated decision is contested by an applicant. Interview with Dr Howard Bell OAM, Principal Lawyer, Legal, Corporate Services, NSW Department of Customer Service (Karen Lee, in-person interview, 31 October 2019). A related consideration is if and when the State and Commonwealth Model Litigant Rules (guidelines that govern how ADMs ought to behave before, during, and after litigation with individuals, companies and other government bodies) apply to automated decision-making.

[35] Interview with Boughey (n 28).

[36] Ibid.

[37] Ibid.

[38] Ibid. This automation has caused difficulties for some users of government services, especially the poor and elderly. Centrelink clients, for example, must now have a myGov account, as Centrelink no longer sends notices in hard copy. To access their accounts, clients must be able to access the Internet via a public library or have a mobile phone with sufficient credit.

[39] Interview with Carroll (n 31).

[40] But see the sources in nn 15 and 17.

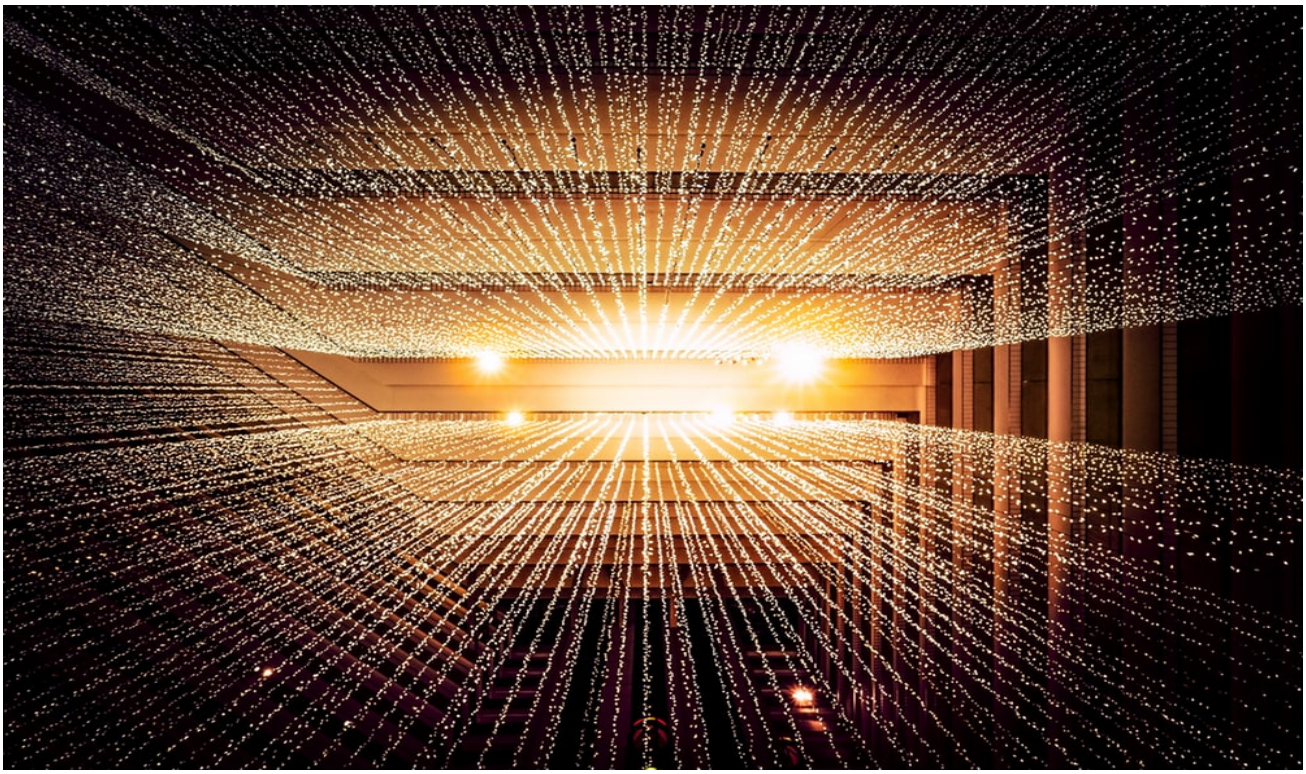
[41] Interview with David Hertzberg, Principal Government Lawyer, Department of Employment, Skills, Small and Family Business (Karen Lee, telephone interview, 8 November 2019).

[42] Interviews with Carroll (n 31) and Hertzberg (n 41).

[43] Interview with Bell (n 34). He pointed to NCAT's use of an email registry and case database and the ability and practice of taking evidence by video link.

[44] Interview with Hertzberg (n 41).

[45] Interview with Naomi Gould, Senior Solicitor, Canberra Community Law (Karen Lee, telephone interview, 12 November 2019).



CONSEQUENCES 1

[An explanation of how this will change what current and future lawyers need to know and be able to do.]

Current and future administrative lawyers will be expected to have an understanding of the various technologies and the importance of ensuring they comply with administrative law principles.[46] Inevitably, they may need to have some familiarity with the coding written by programmers so they can properly advise their clients. They will also need to be attentive to the full range of legal issues that artificial intelligence and computer-assisted decision-making raises—eg, privacy, tort and regulatory matters—as well as the numerous ethical considerations that are involved.[47]

However, the practitioners we interviewed emphasised that future lawyers will continue to need the traditional analytical skills that have been the hallmarks of the legal profession. One interviewee says he continues to look for 'minds that work through problems'.[48] Another emphasised that the 'capacity to think laterally and creatively' remains as important as ever, and he expressed some reservations about law schools possibly prioritising teaching students about the impact of Information technologies, including machine learning, on administrative law over core administrative law doctrine and legal skills. He preferred the adoption of an integrated approach that involves immersing law students in the full 'digital eco-system' in which they will work.[49] This view was consistent with another interviewee who stressed that understanding the established principles of administrative law was now even more important. Law evolves in light of social, political and technological contexts, and it was possible to teach administrative law doctrine in light of the technological context. However, there continues to be a need for the traditional administrative law doctrine.[50]

[46] Interviews with Carroll (n 31) and Bell (n 34).

[47] Interview with Carroll (n 31).

[48] Ibid.

[49] Interview with Bell (n 34).

[50] Interview with Hertzberg (n 41).

CONSEQUENCES 2

[An explanation of how this will change the way the core law unit should be taught to law students, including the scope of the unit, the learning outcomes for the unit, the learning activities undertaken by the students, and how students within the unit should be assessed.]

The way in which administrative law is taught will need to be modified in some ways to accommodate machine learning and other Information technologies mentioned above. However, the modifications suggested here centre on greater examination of the context in which administrative decision-making occurs rather than a fundamental overhaul of the topics and skills traditionally covered and taught. As discussed earlier, many interviewees expressed the view that technological change would not impact fundamental administrative law principles, but instead would be relevant to the interpretation and application of those principles in practice. Academics who have taught administrative law through the 'lens' of technology indicated it is an excellent way to examine the complex legal and policy issues raised in the subject and engage students.[51]

There is no current need to alter the scope of the unit or the overarching learning objectives for the unit, although this may change in the future. Learning objectives tend to be framed in a high-level or general way that is capable of accommodating technological change. However, some learning activities relating to automation should be incorporated. For example, in compulsory administrative law units, lecturers could set readings relating to the challenges that automation poses for administrative law and its institutions. These readings could cover topics such as the heavily criticised debt-collection system used by Centrelink known as 'Robo-debt',[52] merits review, administrative law values and the scope of judicial review.[53] They could also explore the differences between legal and algorithmic decision-making. In addition, lecturers could develop online modules, using Robo-debt as a case study, to examine the concept of administrative justice.[54] In lectures and seminars, examples of automation could be used to highlight issues in other doctrinal topics, such as the jurisdiction of the courts and some grounds of review.[55] The relationship between the model litigant rules and Information technologies could also be explored. The *Pintarich* case[56] could be used as an example to illustrate the scope of the meaning of 'decisions' under the ADJR Act—a topic that merits greater consideration and analysis in light of machine learning—in lectures or to craft a learning activity such as a problem question for use in tutorials.[57]

Questions relating to automated decision-making could also be incorporated into unit assessment, as they allow exploration of fundamental administrative law themes.[58] For example, research essays could focus on merits review of automated decision-making and the meaning of discretion.[59] Other questions could require students to consider the critiques offered by Professor Terry Carney in his article 'Robo-debt Illegality: The Seven Veils of Failed Guarantees of the Rule of Law?' (2019) 44(1) *Alternative Law Journal* 4 when assessing the contribution of the rule of law and separation of powers to merits review.[60]

Practitioner comments suggest that law schools may also need to explore ways to expose students to (or replicate) the 'digital eco-system' in which they will work.[61] Clinical legal education which exposes students to 'law on the ground' may be the best way to achieve this.[62]

[51] Interview with Boughey (n 28).

[52] Introduced by the Commonwealth government in 2016, this program operates to issue debt notices to recipients of social security benefits in cases where a recipient's earnings as declared to Centrelink do not match a figure derived from records held by the Australian Tax Office.

[53] Interview with Boughey (n 28).

[54] Ibid.

[55] Ibid.

[56] [2018] FCAFC 79.

[57] Interview with Ng (28).

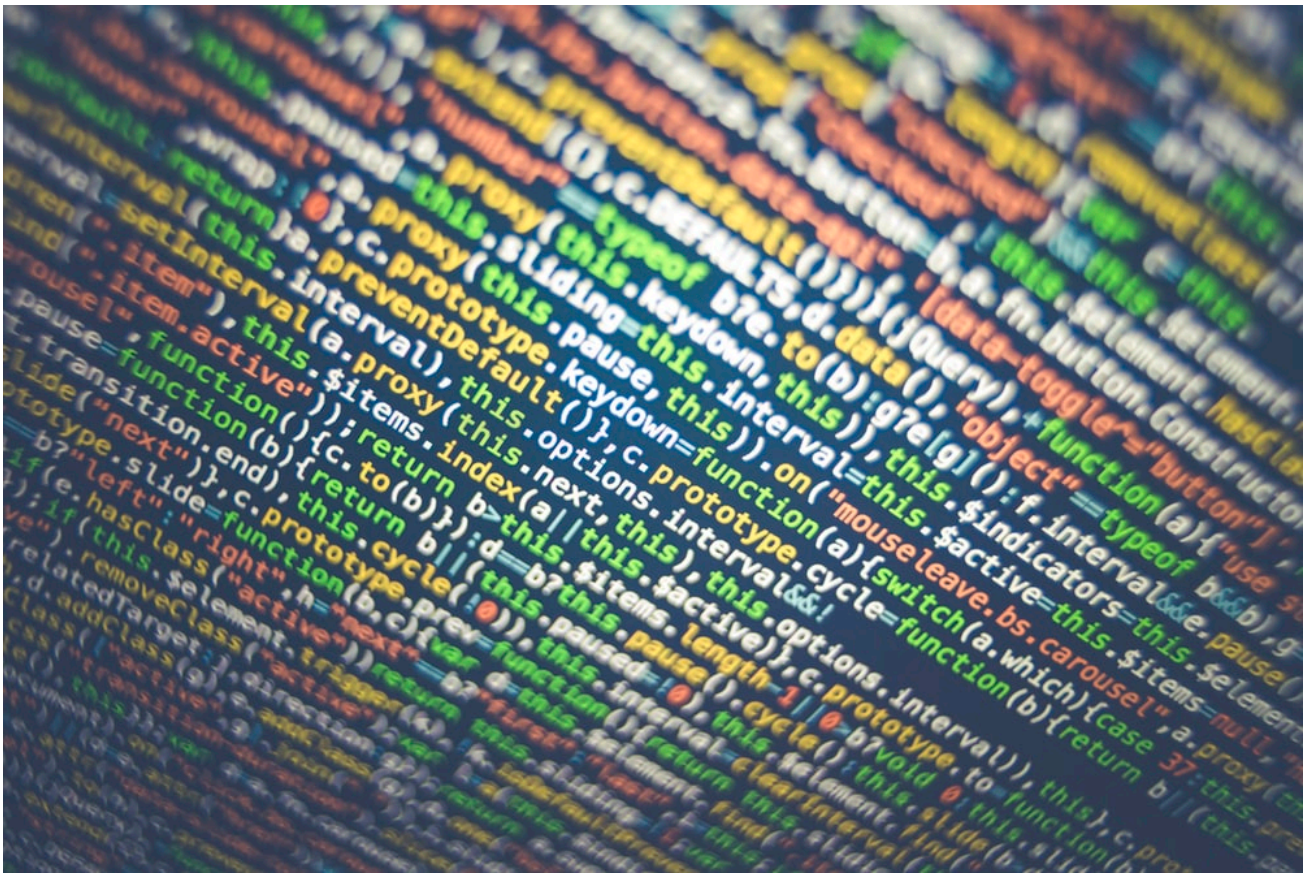
[58] Ibid.

[59] Interviews with Boughey (n 28) and Professor Anthony Cassimatis, University of Queensland (Karen Lee, telephone interview, 4 November 2019).

[60] Interview with Cassimatis (n 59).

[61] Interview with Bell (n 34).

[62] Interview with Gould (n 45).



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[A list of resources referred to in the Report plus additional resources.]

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Cases

Pintarich v Deputy Commissioner of Taxation [2018] FCAFC 79

Legislation

Examples of authorisation and deeming provisions

Australian Citizenship Act 2007 (Cth) s 48
Biosecurity Act 2015 (Cth) s 280
Migration Act 1958 (Cth) s 495A
Paid Parental Leave Act 2010 (Cth) s 305
Social Security (Administration) Act 1999 (Cth) s 6A

Example of statutory provision permitting Minister to substitute more favourable decisions for certain computer-based decisions

Migration Act 1958 (Cth) s 495