NSW Law Reform Commission
Department of Communities and Justice
GPO Box 31, Sydney NSW 2001
nsw-lrc@justice.nsw.gov.au

02 August 2021

Open Justice and Technology:
Courts, Tribunals and Artificial Intelligence

Submission to NSW Law Reform Commission
Open Justice Review Draft Proposals

Dr. Monika Zalnieriute
Senior Lecturer and Australian Research Council DECRA Fellow,
Faculty of Law and Justice UNSW Sydney, Australia;
ARC Centre of Excellence 'Automated Decision-Making and Society';
Allens Hub for Technology, Law and Innovation;
Australian Human Rights Institute, UNSW;
m.zalnieriute@unsw.edu.au.

About this Submission

Thank you for the opportunity to make a submission to this inquiry. I do so in a private capacity as a scholar of law and technology at UNSW Law and Justice in Sydney, Australia. My submission concerns the role of technology and its impact on the principle of open justice.

NSW Law Reform Commission's Draft Proposals explictly concern the relationship between technology and access to the courts. Courts and tribunals are, in many ways, more open due to technology: most Australian courts now publish decisions, audio-hearings, 'Sentencing Webcasts' on their websites, and some courts regularly post on Facebook and Twitter about recent decisions.[1] Technology has also gained new prominence for facilitating remote hearings

---

[1]   Monika Zalnieriute and Felicity Bell, 'Technology and Judicial Role', *The Judge, the Judiciary and the Court: Individual, Collegial and Institutional Judicial Dynamics in Australia* (Cambridge University Press 2021).

after the beginning of COVID-19 pandemic. However, I argue that to fully appreciate the impact of technology on the principle of open justice, consideration of technology issues must go beyond social media and remote hearings to cover technology assisted decision-support and decision-making systems used by the courts and tribunals.

My recent scholarly work examines the compatibility of various automation tools with fundamental principles of justice and how they strengthen and undermine the rule of law.[2] It also analyses how automated systems in judicial decision-making affect judicial values to understand where the technology might go in the future and the dangers it could bring for the courts and tribunals.[3] Currently, I am leading a research project 'Artificial Intelligence Decision-Making and the Courts' conducted by UNSW Sydney and *Australiasian Institute of Judicial Administration*. In this submission, I share the most relevant insights form my work on the relationship between technology and judicial value of open justice.

Automation Tools and Open Justice

The degree of automation employed in automation systems, designed to support judicial and tribunal decision-making, vary along a trajectory starting with what is known as 'decision-support' to 'human-in-the-loop', to the total disappearance of humans from the decision-making process.[4] 'Decision-support' is an information system which supports organisational decision-making, and has a relatively long history.[5] Such systems can be designed to ensure that decision-makers consider relevant considerations and disregard irrelevant considerations; and that criteria are applied in standardised ways, improving consistency of decision-making.

---

[2]   Monika Zalnieriute, Lyria Bennett Moses and George Williams, 'The Rule of Law "By Design"?' (2021) 95 Tulane Law Review 1063; Monika Zalnieriute and others, 'From Rule of Law to Statute Drafting: Legal Issues for Algorithms in Government Decision-Making' in Woodrow Barfield (ed), *Cambridge Handbook on the Law of Algorithms* (1st edn, Cambridge University Press 2021); Monika Zalnieriute, Lyria Bennett Moses and George Williams, 'Automating Government Decision-Making: Implications for the Rule of Law' in Sebastian de Souza and Maximillian Spohr (eds), *The Future of Law: Technology, Innovation and Access to Justice* (Edinburgh University Press 2021); Monika Zalnieriute, Lyria Bennett Moses and George Williams, 'The Rule of Law and Automation of Government Decision-Making' (2019) 82 The Modern Law Review 425.

[3]   Zalnieriute and Bell (n 1).

[4]   See Iyad Rahwan, 'Society-in-the-Loop: Programming the Algorithmic Social Contract' (2018) 20(1) *Ethics and Information Technology* 5; Sailik Sengupta et al, 'RADAR: A Proactive Decision Support System for Human-in-the-Loop Planning' (Conference Paper, AAAI Fall Symposium Series, 9–11 November 2017).

[5]   Giovanni Sartor and Karl Branting (eds) *Judicial Applications of Artificial Intelligence* (Kluwer Academic, 1998).

Meanwhile, 'human-in-the-loop' is a system with more automation but which still requires human interaction.[6] Decision-support and automation with a human-in-the-loop may involve different techniques, and sometimes combinations of them. For example, expert system is a process that follows a series of pre-programmed rules to mirror responses of a human expert in a particular domain.[7] An example in judicial context is EXPERTIUS - a decision-support system used in Mexico to advise judges and clerks as to whether a plaintiff is eligible for a pension.[8]

Such automated systems offer the potential to make more open and transparent most, or all aspects of the judicial or tribunal decision-making process - an impossibility in a human judge or tribunal. For example, Susskind suggested that automated decision-making systems – if designed 'correctly' – could render transparent every step of the decision-making process,[9] arguably 'opening up' the courts and tribunals further than merely allowing the public to access hearings of information. However, such automation tools are not very easy to design 'correctly' in practice.

How Opacity in Automated Systems Undermines Open Justice

As I explain with my colleague Dr Felicity Bell, this unease connects to a much wider challenge that automation poses to open justice.[10] This challenge can be summarised as three 'forms of opacity' of automation tools.[11] The first form – intentional secrecy – may prevent open justice when automation tools, used by the courts or tribunals, are protected as trade or state secrets under intellectual property laws. For example, the owners of the COMPAS tool (used in risk assessments for sentencing and bail decisions in the USA) have not publicly disclosed the methods or datasets used in its training and development. COMPAS's lack of transparency was the focus of one of the concurring judgments in *Loomis*, where Abrahamson J described the

---

6   Lorrie F Cranor, 'A Framework for Reasoning about the Human in the Loop' (Conference Paper, Usability, Psychology, and Security, 14 April 2008).

7   Richard E Susskind, *Expert Systems in Law: A Jurisprudential Inquiry* (Clarendon Press, 1987) 114–15.

8   Davide Carneiro et al, 'Online Dispute Resolution: An Artificial Intelligence Perspective' (2014) 41 *Artificial Intelligence Review* 227–8.

9   Richard E Susskind, *Expert Systems in Law: A Jurisprudential Inquiry* (Clarendon Press 1987) 114–115.

10   Zalnieriute and Bell (n 1).

11   Jenna Burrell, 'How the Machine "Thinks": Understanding Opacity in Machine Learning Algorithms' (2016) 3 Big Data & Society 1.

'court's lack of understanding' of the tool as a 'significant problem'.[12] Her Honour observed that:

> making a record, including a record explaining consideration of the evidence-based tools and the limitations and strengths thereof, is part of the long-standing, basic requirement that a circuit court explain its exercise of discretion at sentencing.[13]

Such transparency and analysis of the tool itself would also provide 'the public with a transparent and comprehensible explanation for the sentencing court's decision'.[14] However, the Wisconsin court held that there was no requirement that defense counsel be able to challenge the accuracy of the COMPAS algorithms which remain a trade secret.[15] Arguably, lack of transparency due to intentional secrecy seriously undermines the principle of open justice.[16]

Additional forms of opacity of automation systems may pose further challenges to the principle of open justice, because even if operational information is disclosed, majority of the public will still not be able to extract useful knowledge from that information.[17] In this context, the significance of judicial reasoning is unparalleled, as it enables courts and tribunal 'to communicate evidence that their decision making is neutral'.[18] Automated systems generally do not (and possibly cannot) provide reasons for the decision they deliver, but reasons are crucial (and thus imperative[19]) for ensuring that the parties and the public understand the logic behind decision-making by the courts and tribunals. Language is a constitutive element of legal judgments, leading some to proclaim that it 'does not merely represent one of many forms the law can take but is the *only* form capable of realizing foundational rule of law principles'.[20] To illustrate this tension between language and technology, imagine that the technical code of COMPAS was made public. The code would not provide the reasons for the conclusions it reached – and how many of us would be able to read and understand it in the first place? Finally, Jenna Burrell has suggested that because humans reason differently to machines, they cannot

---

12   *State of Wisconsin v Loomis* (2016) 881 NW2d 749 (Wis) [774].
13   ibid 133, 141.
14   ibid 142.
15   ibid 51; see also, 'Stanford Pretrial Risk Assessment Tools Factsheet Project' (*Stanford Law School*) <https://law.stanford.edu/pretrial-risk-assessment-tools-factsheet-project/> accessed 1 March 2020..
16   Katherine Freeman, 'Algorithmic Injustice: How the Wisconsin Supreme Court Failed to Protect Due Process Rights in State v. Loomis' (2016) 18 North Carolina Journal of Law & Technology 75.
17   Burrell (n 11).
18   Tom R Tyler, 'Procedural Justice, Legitimacy, and the Effective Rule of Law' (2003) 30 Crime and Justice 283, 298.
19   *Wainohu v New South Wales* (2011) 243 CLR 181.
20   Frank Pasquale, 'A Rule of Persons, Not Machines: The Limits of Legal Automation' (2019) 87 The George Washington Law Review 1.

always interpret the interactions among data and algorithms, even if suitably trained.[21] Thus, even if we could read the code, we may not be able to understand how the automated system generated its results, as it has gone through a recursive process of refining its results and adjusting the 'weight' accorded to a multitude of different variables. This suggests that transparency, which is crucial for open justice and overall accountability of the courts and tribunals, may erode over time as automated systems become more complex.

Conclusion

In sum, automation tools, used to assist courts and tribunals, present novel challenges for open justice. Lack of transparency in how such tools operate, often cemented through 'trade secrecy' doctrines, is not compatible with the principle of open justice. If technology is to assist courts and tribunals, open-source software should be used. Even then, many challenges remain, and they must be considered in law reform process on open justice.

Acknowledgments

---

21   Burrell (n 11).