From Representative Democracy to (un?)Representative Algocracy: The Regulatory Challenges for AI Adjudication in New Zealand

First factory workers. Then phone operators. Next, judges? We are familiar with how automation is changing the job market. We are perhaps less familiar with the reality of judicial automation, and the challenges it poses for regulators. This essay will consider two broad challenges of regulating Artificial Intelligence (AI) adjudication technology in New Zealand- the complexity of the risk-benefit analysis, and the need for regulatory legitimacy. Potential strategies to address these challenges will then be considered in context. Outside the scope of this essay are numerous additional regulatory challenges, including the issue of regulatory connection and effectiveness of regulatory measures.[1]

This essay presumes that New Zealand's current regulatory systems cannot address the risks of AI adjudication. New Zealand has no 'hard-law' specifically directed at algorithms or AI, although soft-law mechanisms such as the New Zealand Algorithm Charter are beginning to emerge.[2] Though human rights and product liability laws 'capture' the operation of AI adjudication technology, the risk of AI has been described as "occurring in a regulatory vacuum, with traditional regulatory methods unable to manage autonomous machines.[3] Similarly, existing rights need to be adapted and fine-tuned to be fit for purpose.[4] Further, the interaction of humans with AI systems, and potential limitations on the decisions to be outsourced to algorithms have both been identified as areas requiring new regulations.[5]

AI Adjudication and Machine-Learning Technologies Defined

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[1] For discussion on these points please see Roger Brownsword and Morag Goodwin *Law and the Technologies of the Twenty-First Century: Text and Materials* (Cambridge University Press, Cambridge, 2012), Jacob Turner *Robot Rules: Regulating Artificial Intelligence* (Switzerland, Palgrave Macmillan, 2019) from 40, Tanel Kerikmae and Evelin Parn-Lee "Legal Dilemmas of Estonian Artificial Intelligence Strategy: in Between of e-Society and Global Race" (2020) 36 AI Soc 561 at 565, Gregory N Mandel "Regulating Emerging Technologies" (2009) 1 Law Innov Technol 75 from 82.

[2] Colin Gavaghan and others *Government Use of Artificial Intelligence in New Zealand* (The New Zealand Law Foundation, Wellington, 2019) at 49, *Algorithm Charter for Aotearoa New Zealand* (New Zealand Government, July 2020).

[3] Matthew Scherer "Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies and Strategies" (2016) 29 Harv. J.L. & Tech 354 at 356.

[4] Gavaghan and others, above n 2, at 61.

[5] Simon Chesterman *We, the Robots?* (Cambridge University Press, Cambridge, 2021) at 188 and 191.

AI adjudication technology refers to machine-learning/ predictive algorithms colloquially referred to as 'robot judges.' The algorithm operates by making predictions about an unknown 'output' variable, based on its training of known 'input' variables.[6] In the context of AI adjudication, systems are trained using data collated from precedential court cases, which are applied using pattern recognition to facts of a new and present case. This results in an output summary judgment. This essay will focus purely on this form of AI adjudication, rather than other examples of predictive legal technology like criminal sentencing software.

AI Definition

A preliminary regulatory challenge for AI technology is how AI itself is defined. Experts are unable to identify a widely accepted definition.[7] For this essay's purpose of considering the regulation of AI adjudication in a technology/ risk specific context, I do not need to consider this definitional discussion. When AI technologies are being regulated specifically according to their use, it may not be necessary to define AI itself *if* the specific technology, namely machine-learning algorithms, can be defined.[8] As such, the above definitions of AI adjudicators and machine-learning algorithms are sufficient for purpose.

I Complexity of the Risk-Benefit Analysis

The first broad challenge facing regulators of AI adjudication technologies is the complexity of performing a harm-benefit calculation on behalf of regulatees, which in this context constitutes New Zealand's entire population. Regulators must determine the appropriate balance between precaution, and freedom to recognise the benefits of the technology.[9]

To consider the strategies that regulators could adopt to conduct this analysis, the hazards and benefits of AI adjudication technology must first be considered.

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[6] Gavaghan and others, above n 2, at 7.

[7] Select Committee on Artificial Intelligence *AI in the UK: ready, willing and able?* (House of Lords Select Committee on Artificial Intelligence, HL Paper 100, (2018). See also Scherer, above n 3, 359-362.

[8] John Zerilli *A Citizen's Guide to Artificial Intelligence* (MIT Press, Massachusetts, 2021) at 5.

[9] Brownsword and Goodwin, above n 1, at 46.

A Hazards

1 Bias

Predictive algorithms demonstrate a potential for bias in decision-making, due to 'dirty data.'[10] Using precedential cases as training data enables "past mistakes and implicit prejudices [to] be reproduced."[11] For example, the American COMPAS criminal recidivism risk assessment algorithm has been shown to skew false-positive and false-negative results to prejudice African American defendants.[12] Similarly, predictive policing programmes have been criticised as entrenching discriminatory approaches by providing "a front of allegedly 'impartial' statistical evidence, putting a neutral technological veneer on pre-existing discriminatory practices."[13]

Regulatory analysis of bias requires consideration of who will be most affected. Human biases of the New Zealand justice system disproportionately affect Māori and Pasifika.[14] Existing bias is therefore distributed unequally against vulnerable minorities. It can be extrapolated that automation bias would impact the same groups. Even if the risk of bias is low, a challenge for regulators is preventing the government from transferring risk disproportionately to those most vulnerable.[15] To do so under the guise of introducing potential benefits would be inconsistent with the principles of the Treaty of Waitangi/ te Tiriti o Waitangi, most pertinently, the principle of protection.

The bias analysis also requires consideration of potential automation bias in comparison to human bias- specifically asking whether automation bias is more severe than, or merely different to, the status quo. These questions enable regulators to determine whether the

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[10] Gavaghan and others, above n 2, at 43.

[11] Joshua Park "Your Honor, AI" *Harvard International Review* (online ed, Boston, 3 April, 2020).

[12] Jeff Larson, Surya Mattu, Lauren Kirchner and Julia Angwin "How We Analysed the COMPAS Recidivism Algorithm" (23 May 2016) ProPublica <https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm>.

[13] Hannah Couchman *Policing by Machine: Predictive Policing and the Threat to Our Rights* (Liberty, January 2019) at 15.

[14] Waitangi Tribunal *Tū Mai Te Rangi! Report on the Crown and Disproportionate Reoffending Rates* (WAI 254, 2017).

[15] Chesterman, above n 5, at 76.

benefits of AI adjudication outweigh the bias hazard. Regulators must identify whether we are searching for a perfect system, or a system that is simply less imperfect than humanity.

2 The 'Black Box Problem'

In context, the 'Black Box' Problem refers to the opacity of predictive algorithms which underly AI adjudication technology.[16] Opacity takes three forms;

1. Proprietary technology opacity, caused by trade secret and intellectual property protections.
2. Complex opacity, caused by technology which can only be understood by experts.
3. Natural opacity, caused by technology which is too complex for the human mind.[17]

Only natural opacity poses a serious regulatory challenge, as the first two can be addressed by court orders and expert consultation respectively.[18]

Natural opacity conflicts with the right to natural justice, as affirmed under s 27 of the New Zealand Bill of Rights Act 1990, by inhibiting disclosure and reviews of reasoning, and by concealing bias/predetermination.[19] Further, natural opacity prevents an algorithmic judiciary from upholding the rule of law by inhibiting its capacity to provide reasoning to lay persons for its decisions, thus detrimentally impacting the legal system's transparency.[20] Though clichéd, it is true that "justice must not only be done, but must also be seen to be done."[21] Opacity of AI adjudicators therefore becomes an access to justice issue. The key regulatory challenge is in identifying whether natural opacity is expanding the legal system's inaccessibility, or merely changing the nature of existing inaccessibility, which presently manifests through 'legalese' and the alleged gatekeeping of the legal process by its profession.[22]

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[16] Carlos Zednik "Solving the Black Box Problem: A Normative Framework for Explainable Artificial Intelligence" (2021) 34 Philos Technol 265 at 3.

[17] Chesterman, above n 5, at 65.

[18] Chesterman, above n 5, at 65.

[19] Zerilli, above n 8, at 132.

[20] John Morison and Adam Harkens "Re-Engineering Justice? Robot Judges, Computerised Courts and (semi) automated legal decision-making" (2019) 39 SLS 618 at 633.

[21] *R v Sussex Justices* [1924] 1 KB 256.

[22] Helen Winkelman "Access to justice : who needs lawyers?" (2015) 12 Jud. Rev. 341 at 345.

3 Legitimacy of the Judiciary

Judicial decision-making must be efficient *and* legitimate.[23] Eugene Volokh predicts that AI adjudication could reasonably come at the cost of attenuated legitimacy of the judiciary.[24] This is because legitimacy of judicial decisions depends on process transparency which is inhibited by opacity.[25]

4 Risk of AI Adjudication

Risk defined is "the probability that exposure to a hazard will lead to a negative consequence."[26] Regulators are challenged with determining whether these hazards have a basis in reality that justifies a particular regulatory approach.[27] However, risk cannot merely constitute the probability of hazards eventuating. The size, nature, and vulnerability of at-risk populations, as well as intensity of harm and disproportionate impacts, are all relevant risk considerations for regulators. To demonstrate this analysis, the 2021 European Commission Coordinated Plan on Artificial Intelligence categorised use of AI for "administration of justice and democratic processes (e.g. applying the law to a concrete set of facts)" as high risk.[28]

B Benefits

These hazards, and associated risks, must be balanced against the potential benefits of AI adjudication. Broadly, AI adjudication provides an opportunity to address the access-to-justice gap, a problem to which New Zealand is not immune.[29] Time and cost efficiency of machine-learning algorithms will assist in clearing court backlog and lowering court fees.[30] Such efficiency, though currently a 'want,' may develop into a 'need' as society becomes

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[23] Chesterman, above n 5, at 57.

[24] Eugene Volokh "Chief Justice Robots" (2019) 68 Duke L.J. 1136 at 1170, Zerilli, above n 8, at 136.

[25] Chesterman, above n 5, at 67.

[26] David Ropeik and George M. Gray *Risk: A Practical Guide for Deciding What's Really Safe and What's Dangerous in the World Around You* (Houghton Mifflin Harcourt, 2002) at 4.

[27] Zerilli, above n 8, at 7.

[28] Press release *Europe fit for the Digital Age: Commission proposes new rules and actions for excellence and trust in Artificial Intelligence* (European Commission, IP/21/1682, April 2021) at 1.

[29] Winkelman, above n 22, at 347.

[30] Joshua Park, above n 11.

increasingly complex.[31] Secondly, in theory, AI provides an objectivity which cannot be replicated in human judges, and would address prejudice, favouritism and nepotism enabled by judicial discretion.[32] Finally, by virtue of sheer processing power, capacity to continually update input data as it develops, and enhanced information management capacities, algorithms provide accuracy which humans cannot match. [33] Each of these benefits would contribute to minimising the justice gap.

C Risk-Appetite

The higher a technology's harm component, the higher the justified 'price' of precaution. Price of precaution includes direct investigative costs, and indirect costs of delaying benefits, namely the continued inaccessibility to justice.[34] The key challenge for regulators within this harm-benefit analysis is that they must conduct the analysis on behalf of regulatees, who, in a pluralistic society, have a variety of different risk-appetites. This is compounded by the sheer number of regulatees in the AI adjudication context. Regulators therefore must create a cohesive regulatory system in the face of varied and conflicting values.

1 Low Risk-Appetite/ Precautionary Approach

To appease individuals with a low risk-appetite, regulators could adopt a precautionary approach to regulation. This involves preventative, cautionary steps to regulate emerging technologies when regulators deem, in the face of extreme uncertainty, that eventuation of hazards is worse than loss of the technology's benefits.[35]

Precaution could manifest in several ways. Some are observable in the regulatory responses of France and the European Union to AI adjudication. In 1978, France outlawed solely automated adjudication in administrative decisions relating to a person's personality or

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[31] Zerilli, above n 8, at 136.

[32] Gavaghan and others, above n 2, at 54.

[33] Morison and Harkens, above n 20, at 634.

[34] Christian Munthe "The Black Hole Challenge: Precaution, Existential Risks and the Problem of Knowledge Gaps" (2019) 22 Ethics Policy Environ 49 at 54.

[35] Deryck Beyleveld and Roger Brownsword "Emerging Technologies, Extreme Uncertainty, and the Principle of Rational Precautionary Reasoning" (2012) 4 Law Innov Technol 35 at 37.

profile,[36] and in 2019 prohibited publication of data-analytics predicting judicial outcomes.[37] The 2016 European Union General Data Protection Regulation granted data-subjects the rights not to be subject solely to automated decision-making, to obtain human intervention, and to contest automated decisions.[38] Precaution is further reflected in the 2021 European Commission Coordinated Plan on Artificial Intelligence, where high risk technologies are subject to obligations including meaningful human-oversight measures, detailed documentation, and adequate risk assessment and mitigation.[39]

2 High Risk-Appetite Approach

Regulators favouring those with higher risk-appetites prioritise technological development and progress, focusing on potential benefits. This approach is summarised by Eugene Volokh in that "if AI judges are one day seen as providing better justice- or equivalent justice at a much lower cost and with much greater speed- we should be open to making such constitutional changes."[40] Focus may be placed on identifying whether risks are additional to, or merely different from, those in existence, and emphasising that the standard for AI cannot be "perfect clairvoyance or legal statesmanship," but merely to be as fair and transparent as human judges.[41]

This approach underlies the adjudicative developments in Estonia and China. Vice-President of the Hangzhou Internet Court- an opt-in AI adjudication mechanism which handles trade disputes, copyright cases and ecommerce product liability claims- stated that AI adjudication "speaks to the issue of legal justice. The faster speed- is a kind of justice on its own, because justice delayed is justice denied."[42] Similarly, in implementing machine-learning algorithms to adjudicate small-claims disputes under 7,000 Euros, the Estonian government intends to

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[36] Loi no 78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés 1978 (France), art 2.

[37] Loi no 2019-222 du 23 mars 2019 de programmation 2018-2022 et de réforme pour la justice 2019 (France), art 33.

[38] Regulation 2016/679 on the General Data Protection Regulation [2016] OJ L119/1, art 22(1)(3). See also Data Protection Act 2018 (UK) s 14.

[39] *Fostering a European approach to Artificial Intelligence: Coordinated Plan on Artificial Intelligence 2021* (European Commission, COM(2021) 205, April 2021) at 1.

[40] Volokh, above n 24, at 1158.

[41] Volokh, above n 24, at 1169, 1184.

[42] Chesterman, above n 5, at 241.

clear a backlog of cases and improve transparency and inherent bias to develop access to justice.[43]

D Solutions

These two approaches mark opposite ends of the regulatory spectrum. These views, and everything in between, must be balanced by regulators. There are two strategies regulators can implement to best conduct the cost-benefit analysis on behalf of value-diverse regulatees:

1 Deliberative Democracy

Deliberative democracy involves considering all perspectives and identifying common values to determine the best outcome for the majority of society.[44] This solution introduces a new regulatory challenge- ensuring regulatory legitimacy by implementing values and purposes that are ethically defensible to the majority.[45] As such, regulators must uphold values that are widely shared, reasonably strongly held, and applied with a degree of consistency.[46]

There already exists an overlapping consensus among academics of the norms which should regulate government use of machine-learning technology, including;
- Fairness/ Non-discrimination,
- Proportionality,
- Timeliness,
- Flexibility,
- Certainty,
- Oversight/ Human Control, and
- Enhanced public trust/legitimacy through privacy, transparency, and accountability.[47]

Many of these values are reflected in New Zealand's Algorithm Charter. Public trust is to be enhanced through regular algorithmic peer reviews and plain-English publication of

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[43] Tara Vasdani "Estonia set to introduce 'AI judge' in Small Claims Court to Clear Court Backlog" *The Lawyer's Daily* (online ed, Canada, 10 April 2019).

[44] Brownsword and Goodwin, above n 1, at 59.

[45] Brownsword and Goodwin, above n 1, at 51.

[46] Brownsword and Goodwin, above n 1, at 54.

[47] Gavaghan, above n 2, at 51. Chesterman, above n 5 at 175.

algorithmic processes. Similarly, fairness is ensured by identifying and managing biases in data and incorporating human oversight enabling public enquiries and human means of appeal.[48]

To demonstration the effect of these values in context, the value of human control/ oversight could inform the regulation of AI adjudication by giving precedence to 'human in the loop' regulation to limit algorithmic autonomy.[49] This would involve human intervention in areas of the algorithm's operation, including human rights of appeal. This strategy would, by implementing regulations according to commonly held values, address the dual challenges of the risk-benefit analysis and maintaining regulatory legitimacy.[50]

Despite these existing values, regulators cannot neglect the stakeholder consultation process. Consultation is critical to addressing regulatory legitimacy by allowing a public say in the acceptability of the risks they will be subject to.[51] Given the scope of regulatees, consultation is necessary to identify widely held values, but also to prioritise the voices of vulnerable populations who may be disproportionately harmed by hazards like automation bias. Consultation with Māori must be prioritised to uphold the principles of the Treaty of Waitangi, and to identify culture-specific issues of AI adjudication, such as the taonga status of personal data[52] and how AI adjudicative tools trained using historical data could inhibit present attempts to develop Aotearoa's legal system into a bi-jural one.[53]

2 Implement the Technology as an 'opt-in' alternative

Adoption of AI adjudication need not be absolute, at least not initially. Estonia and China have both implemented the technology as an 'opt-in' alternative, whereby citizens can choose to have their case heard by an AI adjudicator, or a human judge.[54] This strategy addresses the regulatory challenge of the risk-benefit analysis by allowing individuals to make decisions

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[48] NZ Algorithm Charter, above n 2, at 3.

[49] Gavaghan, above n 2, at 54.

[50] Volokh, above n 24, at 1175, Gavaghan, above n 2, at 75.

[51] Brownsword and Goodwin, above n 1, at 49.

[52] Stats NZ, *Algorithm Assessment Report* (Department of Internal Affairs, October 2018).

[53] Honourable Justice Joe Williams, *FW Memorial Guest Lecture: Decolonising the Law in Aotearoa* (22 April 2021) Youtube < https://www.youtube.com/watch?v=8L8vCyKPwI4 >.

[54] Kerikmae and Parn-Lee, above n 1, at 12.

according to their own risk-appetites, thus preventing regulators from deciding risk-appetite on their behalf. Further, this strategy allows society to familiarise with the technology over time, and potentially develop a 'friendlier' eventual reaction, thus maximising the realisation of the technology's benefits.[55]

It should be noted that opacity issues can inhibit individuals from conducting a meaningful cost-benefit analysis. Further, if AI adjudication is a long-term goal to transform the judiciary, operating two parallel adjudication systems is potentially unsustainable, and could inhibit equality under the law.

II Regulatory Legitimacy

The second broad challenge for regulators is safeguarding regulatory legitimacy through legitimate regulatory procedures.[56] Regarding AI adjudication, which closely engages the rights of citizens, the necessity of regulatory legitimacy is magnified, because public trust is a necessity, not a desire.[57]

Regulatory legitimacy requires the most suitable body/bodies be regulators. 'Regulation' is a broad concept extending beyond law, including rulemaking, broad state influence, judicial adjudication, self-regulation, markets, and norms.[58] The challenge of determining the most suitable regulator requires balancing the contemporaneous needs of effectiveness, representation, and legitimacy.[59] In the New Zealand context, to meet these needs, a special consideration must be given to the principles of the Treaty of Waitangi- specifically participation and partnership.

A Strategies

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[55] Volokh, above n 24, at 1171.

[56] Brownsword and Goodwin, above n 1, at 46.

[57] Press release *Europe fit for the Digital Age: Commission proposes new rules and actions for excellence and trust in Artificial Intelligence* (European Commission, IP/21/1682, April 2021) at 1.

[58] Lyria Bennett Moses "How to Think about Law, Regulation and Technology: Problems with 'Technology' as a Regulatory Target" (2013) 5 Law Innov Technol 1 at 15, Chesterman, above n 5, at 185-186.

[59] Mandel, above n 1, at 2.

The capacity of four potential regulatory bodies to address this challenge are discussed in turn:

1 Self-Regulation/ Industry Standards

Self-regulation leaves industries to set their own regulatory standards.[60] Though self-regulation provides benefits of industry knowledge and flexibility, delegation to private-sector developers of the regulation of a constitutional process is dangerous.[61] Existing concerns that self-regulation is undemocratic are amplified, and thus though self-regulation may be necessary, it cannot be sufficiently legitimate without external guidance.[62]

2 Legislature

Legislative mechanisms are being utilised globally to regulate predictive algorithms.[63] The legislature commands legitimacy through democratic representation, relative transparency, and predictable process. Legislative regulation also enables desirable public scrutiny and oversight.[64] Further, the legislature's lack of expertise regarding AI is mitigated by its delegation capacities. [65]

However, AI adjudication technologies challenge the legislature's regulatory legitimacy through the separation of powers and principle of comity. Comity requires the legislature and judiciary to recognise "the other's proper sphere of influence and privileges."[66] The legislature regulating the judiciary challenges such constitutional principles designed to enhance the legitimacy of government, thus posing a challenge for regulatory legitimacy.

3 Regulatory Agency

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[60] Zerilli, above n 8 at 11.

[61] Zerilli, above n 8, at 11.

[62] Chesterman, above n 5, at 202.

[63] Please see Regulation 2016/679 on the General Data Protection Regulation [2016] OJ L119/1, art 22(1)(3) and Data Protection Act 2018 (UK) s 14.

[64] Zerilli, above n 8, at 136.

[65] Scherer, above n 3, at 378.

[66] Parliamentary Privileges Act 2014, s 4. See also Standing Orders of the House of Representatives 2020, SO 116, 117, 118.

The legislature can delegate regulatory powers to a regulatory agency- being any agency that conducts performance reporting, policy advisement, policy design, legislative design, implantation, monitoring, evaluation, administration, standard-setting, compliance, and enforcement regarding a particular regulatory system.[67] Independence from political pressures, customisability, and flexibility make agencies effective regulators of emerging technologies.[68] However, political independence curtails democratic representation, threatening regulatory legitimacy and effectively constitutes a constitutional body being regulated by extra-governmental individuals. This could be mitigated by having a wide range of representatives within the agency, particularly Māori representatives and democratically accountable individuals.

The desirable specificity/ scope of regulatory agencies is a point of contention among academics. Andrew Tutt suggests machine-learning algorithms be treated as a single regulatory category to prevent constricted vision, inter-agency inconsistencies and overlapping regulatory jurisdiction.[69] However, in the context of government-use of machine-learning algorithms, commentators have rejected a centralised regulatory agency in favour of a purpose-specific agency.[70] Technology specific regulation is desirable when hazards and regulatory rationale are closely tied to the technology.[71] AI adjudication, similar to government use of algorithms, poses these specific hazards- namely the need for constitutional legitimacy and stability.

4 Judiciary

The judiciary, though tortious liability, is a potential regulatory body for machine-learning algorithms generally.[72] However, in the context of AI adjudication, this regulatory strategy becomes cyclical. Judicial regulation of AI adjudicators introduces a new type of self-regulation- not by the industry for the technology, but by the technology, for the technology. Though beyond the scope of this essay, it should be noted that 'human-in-the-loop' regulation

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[67] *Government Expectations for Good Regulatory Practice* (Treasury Department, April 2017) at 1.

[68] Scherer, above n 3, at 381-382.

[69] Andrew Tutt "An FDA For Algorithms" (2017) 69 Adm. Law Rev. 83 at 114.

[70] Gavaghan and others, above n 2, at 53.

[71] Bennett Moses, above n 59, at 15.

[72] Chesterman, above n 5, at 219.

could mitigate these risks of self-regulation, potentially allowing the common law to remain as a regulatory mechanism.

As such, the above four regulatory bodies each provide potential strategies to address the challenge of regulatory legitimacy. While none is a perfect solution, a combined regulatory approach between the legislature and a regulatory agency appear to address the main concerns of regulatory illegitimacy.

AI adjudication technology presents specific regulatory challenges, including, as discussed in this essay, the complexity of the risk-benefit analysis, and the need to maintain regulatory legitimacy amongst regulatees. Strategies, including but not limited to, deliberative democracy, individualised decision-making, consultation and careful selection of regulatory bodies mitigate these challenges to an extent. Whether New Zealand follows in Estonian and Chinese footsteps remains to be seen, however although there are challenges in implementing AI adjudicators in New Zealand, it is not an impossible task, and is one that could transform our futures for the better.

Bibliography

A Cases

R v Sussex Justices [1924] 1 KB 256.

B Legislation

1 New Zealand

New Zealand Bill of Rights Act 1990

Parliamentary Privileges Act 2014

Privacy Act 2020

2 European Union

Regulation 2016/679 on the General Data Protection Regulation [2016] OJ L119/1.

3 France

Loi no 78-17 du 6 janvier 1978 relative à l'informatique, aux fichiers et aux libertés 1978 (France).

Loi no 2019-222 du 23 mars 2019 de programmation 2018-2022 et de réforme pour la justice 2019 (France).

4 United Kingdom

Data Protection Act 2018 (UK).

C Books

Colin Gavaghan and others *Government Use of Artificial Intelligence in New Zealand* (The New Zealand Law Foundation, Wellington, 2019).

David Ropeik and George M. Gray *Risk: A Practical Guide for Deciding What's Really Safe and What's Dangerous in the World Around You* (Houghton Mifflin Harcourt, 2002).

Jacob Turner *Robot Rules: Regulating Artificial Intelligence* (Switzerland, Palgrave Macmillan, 2019).

John Zerilli *A Citizen's Guide to Artificial Intelligence* (MIT Press, Massachusetts, 2021).

Nick Bostrom and Eliezer Yudkowsky "The Ethics of Artificial Intelligence" in *The Cambridge Handbook of Artificial Intelligence* ed Keith Frankish and William M. Ramsey (Cambridge, Cambridge University Press, 2014).

Roger Brownsword and Morag Goodwin *Law and the Technologies of the Twenty-First Century: Text and Materials* (Cambridge University Press, Cambridge, 2012).

Simon Chesterman *We, the Robots? Regulating Artificial Intelligence and the Limits of Law* (Cambridge, Cambridge University Press, 2021).

D Journal Articles

Andrew Tutt "An FDA For Algorithms" (2017) 69 Adm. Law Rev. 83.

Carlos Zednik "Solving the Black Box Problem: A Normative Framework for Explainable Artificial Intelligence" (2021) 34 Philos Technol 265.

Christian Munthe "The Black Hole Challenge: Precaution, Existential Risks and the Problem of Knowledge Gaps" (2019) 22 Ethics Policy Environ 49.

David Engstrom and Jonah Gelbach "Legal Tech, Civil Procedure, and the Future of Adversarialism" (2021) 169 U. Pa. L. Rev. 1001.

Deryck Beyleveld and Roger Brownsword "Emerging Technologies, Extreme Uncertainty, and the Principle of Rational Precautionary Reasoning" (2012) 4 Law Innov Technol 35.

Eugene Volokh "Chief Justice Robots" (2019) 68 Duke L.J. 1136.

Gregory N Mandel "Regulating Emerging Technologies" (2009) 1 Law Innov Technol 75.

Helen Winkelman "Access to justice : who needs lawyers?" (2015) 12 Jud. Rev. 341.

John Morison and Adam Harkens "Re-Engineering Justice? Robot Judges, Computerised Courts and (semi) automated legal decision-making" (2019) 39 SLS 618.

Lyria Bennett Moses "How to Think about Law, Regulation and Technology: Problems with 'Technology' as a Regulatory Target" (2013) 5 Law Innov Technol 1.

Matthew Scherer "Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies and Strategies" (2016) 29 Harv. J.L. & Tech 354.

Tahu Kukutai and John Taylor "Indigenous Data Sovereignty: Toward an Agenda" (2016) 38 CAEPR 1.

Tanel Kerikmae and Evelin Parn-Lee "Legal Dilemmas of Estonian Artificial Intelligence Strategy: in Between of e-Society and Global Race" (2020) 36 AI Soc 561.

E Parliamentary and Government Materials/ Reports

Algorithm Charter for Aotearoa New Zealand (New Zealand Government, July 2020).

Fostering a European approach to Artificial Intelligence: Coordinated Plan on Artificial Intelligence 2021 (European Commission, COM(2021) 205, April 2021).

Future Worlds 2050: Images of the Future Worlds Facing the Legal Profession 2020-2030 (United Kingdom Law Society, July 2021).

Government Expectations for Good Regulatory Practice (Treasury Department, April 2017).

Hannah Couchman *Policing by Machine: Predictive Policing and the Threat to Our Rights* (Liberty, January 2019).

Select Committee on Artificial Intelligence *AI in the UK: ready, willing and able?* (House of Lords

Select Committee on Artificial Intelligence, HL Paper 100, (2018).

Standing Orders of the House of Representatives 2020.

Stats NZ, *Algorithm Assessment Report* (Department of Internal Affairs, October 2018).

Waitangi Tribunal *Tū Mai Te Rangi! Report on the Crown and Disproportionate Reoffending Rates* (WAI 254, 2017).

F Internet Resources

Honourable Justice Joe Williams, *FW Memorial Guest Lecture: Decolonising the Law in Aotearoa* (22 April 2021) Youtube < https://www.youtube.com/watch?v=8L8vCyKPwI4 >.

Jeff Larson, Surya Mattu, Lauren Kirchner and Julia Angwin "How We Analysed the COMPAS Recidivism Algorithm" (23 May 2016) ProPublica <https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm>.

Joshua Park "Your Honor, AI" *Harvard International Review* (online ed, Boston, 3 April, 2020).

Press release *Europe fit for the Digital Age: Commission proposes new rules and actions for excellence and trust in Artificial Intelligence* (European Commission, IP/21/1682, April 2021).

Simon Chesterman "The Robot Judge Will See You Now" *The Straits Times* (online ed, Singapore, 9 July 2021).

Tara Vasdani "Estonia set to introduce 'AI judge' in Small Claims Court to Clear Court Backlog" *The Lawyer's Daily* (online ed, Canada, 10 April 2019).