



Explanatory Memorandum: Model Law on the Registration of Algorithmic Decision- Systems

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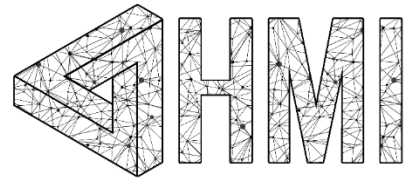
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Introduction

This Explanatory Memorandum explains the background, purpose and operation of the Model Law on the Registration of Algorithmic Decision Systems.¹

It is divided into 3 main parts:

1. Regulatory background: algorithms in the public sector.
2. Objectives of the Model Law.
3. Core features of the Model Law

1. Regulatory background: Algorithms in the Public Sector

The public sector has a unique economic and social profile which creates scalable opportunities for the deployment of algorithmic decision systems (**ADS**): holding critical regulatory and distributive functions; and requiring bulk consumption of goods and services. The roll-out of ADS in the public sector promises greater accuracy, predictability and fairness in the delivery of public services, reduces the public sector's fiscal burden and may boost domestic innovative industry.

Because governments are very-highly regulated entities, preparing for algorithmic government requires building legal and regulatory systems around the deployment of ADS in the public sector.

Although privacy law regimes create some legal rules for governments concerning the collection, storage and use of personal data, there are few established legal frameworks which expressly apply to ADS usage in the public sector. Emerging global practice appears to favour regimes which impose transparency requirements on governmental use of ADS. Major global municipalities, including Amsterdam, Helsinki and New York City, have created algorithm registration systems to publish and scrutinise public sector ADS (See: "[Amsterdam Algorithm Register](#)"; "[Helsinki Algorithm Register](#)"; "[New York City Automated Decision Systems Task Force](#)").

Developing similar legal frameworks for national governments should be guided by a number of core priorities:

1. **Community**: Building citizen trust and legitimacy in algorithmic public service delivery.
2. **Innovation and economic development**: Ensuring innovative technologies underpin e-government by creating efficient markets in public sector procurement.
3. **Risk management** Accurately forecasting, managing and building resilience against legal and operational risk for government.

¹ The Model Law was designed by Dr Will Bateman (ANU) as part of the research project "Regulation of AI in the Public Sector" funded by the Minderoo Foundation and headquartered at the Australian National University (Humanising Machine Intelligence Grand Challenge Project and the ANU College of Law). Exposure drafts of The Model Law were workshopped with key stakeholders in public, private and voluntary sectors. The author is grateful to the participants in those workshops and a summarized report of those workshops is contained in the Annexure.

2. Objective of the Model Law

The Model Law creates a legal framework for the auditing, risk management, systematisation and transparency of ADS use by public sector agencies. It designed with the objective of promoting (Art 1.1):

- a. Citizen awareness of the digital transformation of government activities;*
- b. Efficient and effective deployment of advanced technology in the public sector;*
- c. Protection of basic rights of citizens; and*
- d. Transparency, accountability and fairness in the adoption of artificial intelligence in the public sector.*

Each of those objective aim to achieve the following core priorities of ADS roll-out within government:

Community: building trust and legitimacy in algorithmic government by ensuring the quality/legality of ADS decision-making.

Innovation and economic development: boosting efficiency and innovation in public sector technology by requiring transparency and auditing of ADS used by public sector entities.

Risk management: permitting the early identification and resolution of legal, operational and policy risk in the use of ADS through systematic review of ADS deployment by legal, policy, operational and technical specialists.

3. Core features of the Model Law

The Model Law has 4 core features.

1. Creation of a Register of Algorithmic Decision Systems.
2. Obligations on government agencies and private sector bodies exercised out-sourced government authority to register certain details of ADS.
3. Rules for publication of the Register and exemptions from publication for particularly sensitive ADS.
4. Legal consequences of non-registration.

3.1. Creation of the Register of Algorithmic Decision Systems

The Model Law creates a “Register of Algorithmic Decision Systems” (Art 2) and “Algorithmic Decision-System” is defined (Art 1) as a:

computerised system for:

- a. making decisions; or*
- b. which materially impacts the making of decisions.*

The Register provides an enduring record of ADS used to deploy public services. At a technical level, the Register is composed of “entries” detailing the following matters about ADS used by public sector bodies:

- a. The legal authority sought to be exercised through the use of the Algorithmic Decision-System;*
- b. The name and official title of the person responsible for the supervision of the Algorithmic Decision-System;*
- c. The technical specifications of the Algorithmic Decision-System;*
- d. A simplified description of the technical specifications of the Algorithmic Decision-System; and*
- e. A statement concerning the impact of the use of the Algorithmic Decision-System on legal rights and responsibilities.*

The “technical specification” element is defined to include:

- a. the objectives of the Algorithmic Decision-System;*
- d. any Data used in developing or operating the Algorithmic Decision-System;*
- e. the criteria for evaluating the performance of the Algorithmic Decision-System; and*
- f. any processes used in the monitoring or review of the Algorithmic Decision-System.*

The Register entries will create an enduring record of ADS used by public sector entities, permitting a critical bank of authoritative knowledge regarding the use of ADS by public sector agencies,

accessible by the whole of government, enterprises engaging in public sector procurement processes and (in some cases) the general public.

3.2. Obligations to enter ADS details onto Register

The Model Law imposes obligations on entering details of ADS onto the Register (Art 3). Those obligations fall on entities both inside and outside traditional government agencies that use ADS to exercise public authority.

Article 1 provides the definitions that identify the entities which have obligations to enter ADS details onto the Register:

Agency means a government entity exercising public authority, including (without limitation) a natural person, collective body (whether incorporated or not), authority, tribunal or court, established, appointed or performing the duties of an office established for a public purpose, whether or not established by or under legislation

Organisation means a natural person, body corporate, partnership, any other unincorporated association or trust that exercises public authority and is not an Agency.

The substantive registration obligations in Art 4.2 mirror the content of the Register in Art 2:

1. Any Agency or Organisation that proposes to exercise public authority through the use of an Algorithmic Decision-System must enter the following matters onto the Register:

- a. The legal authority sought to be exercised through the use of the Algorithmic Decision-System;
- b. The name and official title of the person responsible for the supervision of the Algorithmic Decision-System;
- c. The Technical Specifications of the Algorithmic Decision-System;
- d. A simplified description of the Technical Specifications of the Algorithmic Decision-System; and
- e. A statement concerning the impact of the Algorithmic Decision-System on legal rights and responsibilities.

The registration obligations in Art 4 are broadly framed and ensure that a comprehensive archive is created of all ADS which are used to exercise public authority.

The registration requirement does not, however, capture all algorithms used by public sector entities. Registration only applies to ADS which are used “to exercise public authority”, a concept which turns on the definition of “exercises legal authority” (Art 1):

exercise of legal authority means the discharge or exercise of any obligation or power under legislation (including a constitution, other organic law, treaty, parliamentary or delegated legislation) or the general law (being principles and rules stated by judicial, and other authoritative, bodies).

exercise of public authority means the exercise of legal authority for a public purpose.

An example of an ADS which would not need to be registered would be an algorithm which opens boom-gates or scans security passes at an Agency carpark. Such an ADS would not involve the discharge of any obligation or powers under legislation for a public purpose.

An example of an ADS which would need to be registered would be an algorithm which opens passenger gates at an immigration check-point simultaneously with granting a visa. Such an algorithm would involve the exercise of a legal power under immigration legislation for a public purpose.

3.2.1. Pre-registration system development, auditing and risk management

In order to comply with the registration obligations in Art 4, public sector entities must undertake a process of legal, policy and operational audit. Rather than specifically prescribe the audit process, Art 4 leaves Agencies and Organisations significant freedom of action to determine how an audit process should be carried out.

The registration requirements in Art 4 do, however, require that the end point of such an audit identify the legal authority sought to be exercised by an ADS, the human being responsible for the ADS, the ADS methods and the impact of the ADS on legal rights and responsibilities.

Through the process of carrying out that audit, the relevant entity must engage in several layers of review (legal, technical and policy) which bolster the resilience of the eventual deployment of the ADS in public service delivery.

3.3. Publication and exemption from publication

The general position established by the Model Law is that all entries on the Register should be published and made available to the general public (Art 2.7 and Art 3.1). The requirements to register technical specifications do not require the disclosure of trade secrets, but technical methods and objectives which are familiar parts of other public register systems, including those relating to patents and therapeutic goods.

An exemption to the general publication rule is provided (Art 3.2) for ADS which pertain to the Armed Forces, National Security and Public Security, each of which is defined expansively in Art 1.2. The exemption requires the public authority administering the Model Law to determine that publication of entries relating to those ADS “would cause serious harm to the national interest”. If such a determination is made, the entries are not published and the determination is to be published.

3.4. Consequences of non-registration

The Model Law imposes concrete legal consequences for non-registration of ADS (Art 5):

- 1. Any attempted exercise of legal authority by an Agency through the use of an Algorithmic Decision-System that is not registered under Art 4 is of no legal force or effect.*
- 2. Any attempted exercise of public authority by an Organisation through the use of an Algorithmic Decision-System that is not registered under Art 4 is of no legal force or effect.*

Those clear rules are designed to provide very strong institutional incentives to comply with the registration requirement and to ensure clarity for citizens and enterprises engaging with government.

Those legal rules do not, however, displace the operation of other legal regimes (such as human rights law and anti-discrimination law) which may otherwise impose legal obligations on Agencies and Organisations using ADS.

Annexure A: Consultation Report

Between January and April 2020, 15 consultations sessions were conducted on “beta” versions of the Model Law on the Registration of Algorithmic Decision-Systems.

Purpose: The consultations’ core purpose was to gather expert views from domain-specialist organisations on the Model Law. The consultations replaced the Intensive Workshops which were too difficult to convene given complications caused by COVID-19.

Scope: Organisations from the public and private sectors were consulted, as were academic experts in universities and non-profit research bodies:

- The Office of the Commonwealth Ombudsman
- The Office of the New South Wales Ombudsman
- The Australian Taxation Office
- PwC Australia
- Boston Consulting Group
- Ernst and Young
- The Gradient Institute
- The Australian National University
- The University of Sydney
- Reset Tech Australia
- Boab AI (Artesian Capital)

Method: Participants were sent draft copies of the Model Law, the Legal Audit of Artificial Intelligence in the Public Sector and a set of consultation prompts. Dr Bateman then conducted in-person or virtual (Zoom-based) consultations with participants. Most of those consultations lasted between 1-2hrs and were wide ranging discussions of the detail and policy objectives of the Model Law.

Confidentiality: Most of the consultations were conducted on the basis of the “Chatham House Rule”: participants agreed that their comments on the Model Law drafts they reviewed could be published on condition that their identity (and the identity of their organisation) would remain confidential. To avoid impliedly revealing which consultations were conducted under the Chatham House Rule the responses reported in this Annexure are anonymised.

Outcome: the consultations were critically important in refining and perfecting the Model Law. As indicated in the following consultation report table, both positive and negative feedback led to important changes of the system of registration implemented by the Model Law, in addition to promoting reflection on the Model Law’s core objectives, benefits and likely “real world” impact.

Model Law element	Consultation comments	Response
Definition of “Data” (Art 1(2))	Participants noted that “data” means more than simply “information used in the operation of an algorithmic decision system (ADS)”, it also means information used in building, testing and validating the ADS.	The definition of “Data” was expanded to incorporate those comments.
Definition of “ADS” (Art 1(2))	Several participants queried whether the focus on the “operation of a computer” in the definition of an “ADS” is helpful? What about bureaucratic processes that are automated by entirely manual processes: ie, person assigns scores and writes those scores down a piece of paper which is then processed by another person?	This is a good point, but (as explained in the Legal Audit) the core challenge addressed by the Model Law is the imbalance in cognitive capacities created by public officials using advanced computerised technologies. For that reason, the definition of ADS will remain focused on digital computers, rather than manual human processes.
Definition of “Technical Specifications” (Art 1(2))	A number of participants noted that the initial definition (“technical characteristics...including software, hardware and Data”) was unhelpfully broad. The most important things to know about the technical operation of ADS are the: objectives of the ADS; the processes used to measure performance and success; and the systems for monitoring the operation of the ADS.	The definition of “Technical Specifications” was significantly expanded in response to the concerns raised by participants to include explicit references to objectives, performance standards, and monitoring systems.
Ownership of the “Register” (Art 2 and Art 6)	Participants noted that it was unclear whether the Model Law envisaged ultimate regulatory responsibility for the Register lying with a new central agency, an existing central agency, or with each individual Agency or Organisation that uses ADS. Views for and against centralisation of responsibility were presented, including: centralisation would maintain consistent standards in registration and ensuring that there is a “single source of truth” for ADS; conversely centralisation could be responded to negatively by existing agencies, given the currency absence of centralised oversight of public sector processes, and impose unreasonable administrative burdens on a central agency.	A compromise between centralised and local responsibility for the Register is preferable. Art 3 of the Model Law provides for a registration system in which a single register is maintained by an identified agency (which may be newly created or existing). Art 4 imposes obligations on individual Agencies and Organisations to make entries on the Register. Thereby, the obligation to register is localised, while the maintenance and supervision of the Register is centralised.

<p>Publication rules (Art 3)</p>	<p>Several participants noted that the default rule for publishing all ADS with a very limited exemption for ADS concerning the Armed Forces, National Security and Public Security would have perverse effects. The most commonly cited problem was ADS which are explicitly designed to detect and respond to fraud and regulatory evasion/arbitrage must remain secret otherwise they will fail to work.</p>	<p>Responding to these comments raised extensive and interesting discussion during the consultations. Ultimately, it was decided to maintain the default publication rule with the narrow exemption. The requirement to publish the details of ADS on the Register does not require the relevant Agency or Organisation to publish the source code or give away “the secret” of an ADS. Disclosure of the core functions and data underlying fraud detection and regulatory evasion ADS is still an important objective which should outweigh the interests of complete secrecy.</p>
<p>Exemption rules (Art 3 and Art 6)</p>	<p>It was contended by several participants that giving a single agency responsibility for maintaining the register and providing also exemptions based on the armed forces, national defence and public security was unrealistic. The major concern was that the “harm to the national interest” criterion raised issues which were too complex and sensitive to be dealt with by the same agency which administered the Register.</p>	<p>The concerns raised are very valid, but the exemption scheme provided in Art 3(2) does not foreclose administrative solutions to the identified problems. For example, armed service experts could be seconded to the Prescribed Registration Authority to advise on the relevant harm to the national interest in publishing the details of ADS used by the army, navy or air force. For that reason, the exemption regime in Art 3 remains unchanged.</p>
<p>Obligation of register (Art 4)</p>	<p>A major point of discussion with all participants was whether the technical capacity existed in government agencies to comply with the registration requirements set out in the Model Law. The concern was expressed that there is generally a lack of “360 review” of proposed ADS use by policy, legal, operational and technical teams in agencies. The lack of that review stemmed from a lack of expertise within agencies to assess policy, legal and operational risk from a technical perspective.</p>	<p>A core objective of the Model Law is to create a hard regulatory incentive for agencies to build technical capacity that may currently be lacking. For that reason, no changes were made to the Model Law to accommodate the concerns about a lack of expertise. There was general agreement among participants that developing the necessary expertise would require a shared effort between public and private sector bodies.</p>

<p>Consequences of registration (Art 5)</p>	<p>Some participants commented on the heavy legal consequences for using an unregistered ADS provided by Art 6 of the Model Law: that any such use would be of no legal force or effect. Various less invasive options were mooted, including a rule which only imposed legal liability for unregistered ADS use that caused harm and removing any negative legal consequence altogether for that registration would be a purely procedural legal process with no substantive impacts.</p>	<p>The concerns raised are valid. The consequences for using an unregistered ADS are harsh, absolute and may impose heavy liabilities on government agencies and outsources public service providers. That harsh effect is desirable and deliberate. It provides a concrete and hefty incentive for public sector bodies to comply with the registration requirements and to develop technical and administrative capacities to understand and audit ADS before they are implemented. For those reasons, the strict legality rules in Art 5 are maintained.</p>
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