

Abdiyeva G.Ya.♦

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Legal implications of automated decision-making in digital government

"The true knowledge is not in the things, but in finding the connections between the things."

Daniel H. Wilson, 'Robopocalypse'.

Abstract: Although involvement of information technology in digital government undoubtedly results in time and cost savings, it also has some risks to be measured. The governance of automated decision-making, in particular through forms of artificial intelligence appears to have shifted from being a question of ethical principles to being a problem of ordinary legal practice without sufficient attention to how the governance through law should be made effective and legitimate. Focusing on these issues this article will analyse the potential impacts of the use of information technology, particularly in the form of automatic decision-making in digital government. It will describe the legal features on how the algorithms are used in the digital government system. In addition, it will compare benefits and potential risks of the utilize of information technology in order to make in regard with individuals. Finally, from the legal side some recommendations on the ways to use artificial intelligence for automatic decision-making purposes will be covered by the article.

Keywords: legal; artificial intelligence; algorithm; decision; automated; digital; governance; technology.

Rapid expansions in information technology have transformed the legal system. Complex decisions being made without any requirement of human mental processes is quickly becoming the "new normal" [6]. It was a watershed moment when IBM's supercomputer 'Deep Blue' defeated world chess champion Garry Kasparov in 1997. Having programmed Deep Blue with the full history of Kasparov's previous public matches and style, IBM's engineers demonstrated to the world that computers can make decisions in ways that outperform even the best of human minds [5]. Computers assist us with decisions that shape our everyday lives, from the directions we follow when driving, to suggestions as to the books and music we might enjoy.

This automated decision-making is achieved partly, or wholly, through computers that manipulate pre-set logical parameters to perform actions, or make decisions, without the involvement of a human [2]. A growing number of statutes explicitly provide for computer programs to make decisions that stand as the decision of an agency of government [7].

Government interest towards artificial intelligence and automated decision-making systems is growing rapidly. This is because these mechanisms have tremendous potential to transform government decision-making and public services. Thousands of government actions – large and small – affect fundamental entitlements including licensing, social benefits, and regulatory investigations. In day-

♦ **Gunel Abdiyeva Yashar** - Master student of Law faculty specializing in Information law Baku State University (Azerbaijan). E-mail: abdiyevag@gmail.com

to-day regulatory activity there is little public awareness about the use of artificial intelligence systems and yet potentially many applications.

Early experience with ADM in these contexts appears to be mixed. On the one hand, ADM has notable potential to improve access to justice and reduce discrimination. For example, these systems can be used to reduce costs, and promote speed, efficiency and consistency in decision-making. Experience also demonstrates the potential for these technologies to be opaque, inexplicable, and discriminatory [10].

The “digital rights”, legal, and technology communities are increasingly focused on questions regarding the transparency, accountability and impact of these systems. More specifically, questions are being asked about how to ensure these systems are disclosed, how to ensure these systems conform with human rights laws and principles, and how to ensure an effective remedy in the event of a rights violation. These are difficult and complex issues, particularly in light of rapidly changing technology. The law reform options for addressing these issues are neither interchangeable nor trivial. Each option has benefits/drawbacks and the choices are consequential. Critically, there does not appear to be a comprehensive legal framework to guide the use of these technologies or their intersection with foundational rights related to due process, administrative fairness, human rights, and justice system transparency [10].

Government departments and agencies are also expected to have an online presence, with their modes of service delivery not only available 24/7, but reduced to an ‘app’ downloadable for free. This trend corresponds with tight fiscal constraints on governments globally and with rapid growth in the volume, complexity and subject matter of legislation and government decisions affecting private and commercial rights and interests. It comes then as no surprise that governments have increasingly sought to utilise automated processes which employ coded logic and data-matching to make, or assist in making, decisions. These systems can be used to aid or guide a human decision maker at one end of the spectrum. At the other end of the spectrum, they may be used in lieu of a human decision-maker. They may also be integrated at different stages of a decision-making process with differing degrees of human oversight and verification [4, p 1].

The great benefit of these systems is that they can process large amounts of data more quickly, more reliably and less expensively than their human counterparts. They “come into their own” when high frequency decisions need to be made by government [4, p 1].

For example, rule-based systems are used extensively in Australia to assess eligibility for social security payments. These include self-service options. So “Jo Bloggs”, who receives welfare benefits, updates information about her income and employment status every fortnight online. Alternatively, she rings the agency administering her payments and updates information by choosing the relevant options through the use of natural speech recognition technology or the telephone keypad. In each of these scenarios, the system automatically processes the information she gives to re-assess her fortnightly entitlement to social welfare payments. The kinds of transactions undertaken by Jo Bloggs were replicated many tens of millions of times over the course of the last year. The Australian Government’s Department of Human Services hosted over 74.5 million such digital self-managed transactions, and its self-service mobile apps were downloaded more than 750,000 times [3].

To give another example, the Australian Taxation Office has introduced an online ‘*e-tax*’ system to assist taxpayers in completing their annual self-assessed tax returns. At first glance, *e-tax* might not appear to be automated administrative decision-making tool [1]. But, with each click of a

button or selection from the telephone menu, Jo Bloggs is guided by electronic coding through different alternative pathways and, based on her answers, skips past options that the system determines are not relevant. So, like sheep being corralled through a pen, these systems effectively close-off irrelevant gateways as Jo Bloggs progresses through the matrix of pre-programmed pathways and the process is completed with the assessment of her income tax or refund for that financial year, and calculation of any penalties [4, p 2].

The benefits to be achieved by the use of systems such as these can again be illustrated by the experience of the Australian Taxation Office which now utilises over 600 different systems to assist in collection of the revenue. Taking but one example, in the 2012-13 financial year alone, the ATO's automated systems led to data-matching audits that resulted in the collection of approximately AU\$514 million in additional revenue. As the ARC recognised, errors in computer programming and in the translation of complex laws into binary code can result in wrong decisions potentially on an enormous scale if undetected. Input errors may also lead to flawed decisions. Nor are all decisions by government of such a nature that they can appropriately or fairly be made by automated systems. The use of these systems by governments therefore raises questions as to the measures necessary to ensure their compatibility with the core administrative law values or principles that underpin a democratic society governed by the rule of law, in particular:

- to ensure the legality of purported actions by public bodies;
- to guard against the potential erosion of procedural fairness; and
- to safeguard the transparency and accountability of government decisions by the provision of reasons and effective access to merits and judicial review [4, p 3].

Another example on the implementation of automatic decision making is that the UK GDPR gives people the right not to be subject to solely automated decisions, including profiling, which have a legal or similarly significant effect on them. These provisions restrict when you can carry out this type of processing and give individuals specific rights in those cases [8]. Article 22(1) of the UK GDPR limits the circumstances in which you can make solely automated decisions, including those based on profiling, that have a legal or similarly significant effect on individuals. "The data subject shall have the right not to be subject to a decision based solely on automated processing, including profiling, which produces legal effects concerning him or her or similarly affects him or her". What does 'solely' automated mean?

Solely means a decision-making process that is totally automated and excludes any human influence on the outcome. A process might still be considered solely automated if a human inputs the data to be processed, and then the decision-making is carried out by an automated system. A process won't be considered solely automated if someone weighs up and interprets the result of an automated decision before applying it to the individual. A decision may be considered as producing legal effects when the individual's legal rights or legal status are impacted (such as their right to vote for example). In addition, processing can significantly affect an individual if it influences their personal circumstances, their behaviour or their choices (for example an automatic processing may lead to the refusal of an online credit application) [8].

Equally, if an automated system needs to be authorized in order to be utilized. Authority to use such systems should be transparent and express.

The concept of "delegating" a decision to an automated system, in whole or in part, raises a number of unique problems [4, p 4-5].

- For example, *who* is the 'decision maker'?

- To *whom* has authority has been delegated, if that is indeed the correct analysis?
- Is it the programmer, the policy maker, the authorised decision-maker, or the computer itself?
- Is the concept of delegation appropriately used in this context at all? After all, unlike human delegates, a computer programme can never truly be said to act independently of its programmer or the relevant government agency?
- What if a computer process determines some, but not all, of the elements of the administrative decision? Should the determination of those elements be treated as the subject of separate decisions from those elements determined by the human decision-maker?

The decision taken needs to protect the individual's rights, freedoms and legitimate interest, by implementing suitable safeguards. Except where such decision-making is based on a law, the individual must be at least informed of (i) the logic involved in the decision-making process, (ii) their right to obtain human intervention, (iii) the potential consequences of the processing and (iv) their right to contest the decision. Your company/organisation must therefore make the required procedural arrangements to allow the individual to express their point of view and to contest the decision.

Finally, particular attention should be given if the algorithm uses special categories of personal data: automated decision-making is only allowed in the following circumstances:

Furthermore, if the individual is a child, decisions made solely on automated processing that produce legal effects or effects which are of similar significance for the child should be avoided, because children represent a more vulnerable group of society [9].

Result

Automated decision-making is the process of making a decision by automated means with no human involvement. The decisions made automatically might be based on factual data or on digitally created profiles. An online decision to award a loan can be an example of it.

There are both benefits and risks in regard with the usage of the automated decision-making. Automated decision making can be very useful for organisations and also benefit individuals in many sectors, including healthcare, education, financial services and marketing. It can assist people in terms of saving time and reducing costs since automated decision making is quicker and doesn't require a lot of human capital.

Although these techniques can be useful, there are potential risks have to be mentioned. Automated decision-making is often implemented by means of profiling. Profiling is a method of recording and analysis of a person based on their characteristic features and behaviors. Through profiling its user might come to the concrete decision about someone. The risk is that profiling is often invisible to individuals. People might not understand how their personal information is processed and used via profiling. Also, decisions made may lead to unknown results and have significant effects for some people.

In order to avoid the risks ADM systems should only be implemented as a assisting tool to human for calculations and non-discretion-based decisions to save time and resources. Allowing an algorithm to determine outcomes requiring should only be exercised by humans. Algorithm should make its decisions if it is under human control. In order to safeguard decisions from error and the issue of legality in ADM processes, proper verification and regular auditing should be implemented, as well as appropriate mechanisms for human review should exist.

In addition, individuals should not be subject to a decision that is based solely on automated processing (such as algorithms) which is legally binding or that significantly affects them. Only if the individual has given his consent to a decision based on the algorithm automated processing for decision-making can be authorized.

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Абдиева Г.Я.♦

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Правовые последствия автоматизированного принятия решений в цифровом правительстве

Аннотация: Использование информационных технологий в цифровом правительстве, несомненно, приводит к экономии времени и средств, однако оно сопряжено с некоторыми рисками, которые необходимо измерить. Управление автоматизированным принятием решений, в частности с помощью форм искусственного интеллекта, перешло от вопроса этических принципов к проблеме юридической практики без достаточного внимания к тому,

♦ Абдиева Гюнель Яшар кызы - магистрант юридического факультета по специальности информационное право, Бакинский Государственный Университет (Азербайджан). E-mail: abdiyevag@gmail.com

как сделать управление с помощью закона эффективным и легитимным. Сосредоточим внимание на этих вопросах, в статье проанализированы потенциальные последствия использования информационных технологий, особенно в форме автоматического принятия решений в цифровом правительстве, описаны юридические особенности использования алгоритмов в системе цифрового правительства. Кроме того в статье отражено сравнение преимуществ и потенциальных рисков использования информационных технологий в отношении людей. Наконец, с юридической точки зрения, в статье будут рассмотрены некоторые рекомендации по использованию искусственного интеллекта для целей автоматического принятия решений.

Ключевые слова: юридический; искусственный интеллект; алгоритм; решение; автоматизированное; цифровое; управление; технология.

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