ACTA
UNIVERSITATIS
CAROLINAE

IURIDICA 2/2024
Vol. LXX

IURIDICA

2/2024
Vol. LXX

CHARLES UNIVERSITY
KAROLINUM PRESS

Scientific Editor: prof. JUDr. Jakub Handrlica, LL.M., Ph.D., DSc.

Executive Editor: JUDr. Miroslav Sedláček, Ph.D., LL.M.

All the papers in this issue have been peer-reviewed.

https://www.karolinum.cz/journals/iuridica

ISSN 0323-0619 (Print)
ISSN 2336-6478 (Online)

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REGULATORY SANDBOXES, AUTOMATIZATION OF ADMINISTRATIVE DECISION-MAKING AND THE FUTURE OF ADMINISTRATIVE LAW

INTRODUCTORY NOTE TO "REGULATORY SANDBOXES, AUTOMATIZATION OF ADMINISTRATIVE DECISION-MAKING AND THE FUTURE OF ADMINISTRATIVE LAW"

JAKUB HANDRLICA

Administrative law is in a process of change. Deployment of autonomous vehicles, medical robots in healthcare, and nanosatellites, which will provide for connectivity services for the IoT (internet of things) platforms do represent just few examples of challenges for administrative law today.[1] The challenges for administrative law, caused by a gradual emergence of disruptive technologies worldwide, are twofold: On one hand, there has been a need to establish a transparent and effective framework for experimenting with these technologies and subsequently for their permitting, registration, and surveillance. While such framework must guarantee a high level of safety, the same framework cannot create unnecessary barriers for experiments and deployment of these technologies. On the other hand, disruptive technologies, do represent a challenge for administrative procedures themselves. They are capable to alter existing models of administrative practice in the future, for example, by a massive deployment of automatization in administrative proceedings. Thus, when speaking about recent tendencies, we are at the same time sketching the future of administrative law.

New technologies do not only represent a challenge to written law, but also to administrative law as an academic discipline.[2] In this respect, the scholarship of administrative law has already paid considerable attention to the tension between the phaenomenon of *ubiquity of technology* on one hand, and the national character of administrative law on the other.[3] The fact is, that we observe spontaneous deployment of the same type of technologies in various legal frameworks. While the nature of the technology is the usually very similar, or the same – as the very recent boom of *smart cities* in various jurisdictions of Europe clearly demonstrates – the stance of law towards these technologies may differs considerably. On the one hand, the phaenomenon of *ubiquity of technology* implies competition among the various frameworks of administrative law for best solutions, most perfect practice, and high level of safety.[4] At the same time, the

[1] See TAEIHAGH, A. – RAMESH, M. – HOWLETT, M. Assessing the regulatory challenges of emerging disruptive technologies. *Regulation & Governance*. 2021, Vol. 15, No. 4, pp. 1009–1019.

[2] See LIGNIÈRES, P. Imaginer et construire le futur du droit administratif. In: AUBY, B. (ed.). *The future of administrative law*. Paris: Science Po/LexisNexis, 2019, pp. 161–171.

[3] See eg. DALY, P. – RASO, J. – TOMLINSON, J. Administrative law in the digital world. In: HARLOW, C. (ed.). *A Research Agenda for Administrative Law*. Cheltenham: Edward Elgar, 2023, pp. 255–280.

[4] See HANDRLICA, J. – SHARP, V. – NEŠPOR, J. Forum shopping in regulatory sandboxes and the perils of experimental law-making. *Juridical Tribune*. 2023, Vol. 13, No. 3, pp. 408–426.

ubiquity of technology naturally causes a *cross-fertilization* of regulatory tools from one particular jurisdiction to another. *Regulatory sandboxes* are a salient example of a regulatory tool, which has been spontaneously adopted in a considerable wide range of jurisdictions – including the USA, Norway, Singapore, Greece, and the Slovak Republic to mention just few of them. In the Czech Republic, the first regulatory sandbox in the fied of financial innovations will be commenced on 1 July 2024. Recently, *regulatory sandboxes* are being not only discussed in the financial and banking sector, but also in energy industries, healthcare, and transport sector. Having said this, *regulatory sandboxes* must be understood in a wider context of the quest for technological neutrality of written law.[5] In this respect, *regulatory sandboxes* must be not only understood as a contemporary tool to address disruptive technologies, but also as a tool which has the capacity to deal with any in the future emerging technologies.

Automatization of the administrative decision-making has recently presented the potential to become another promising regulatory tool. At this point of time, the City of Vienna is working together with other partners – such as the Technical University of Vienna and the Chamber of Architects & Civil Engineers for the provinces of Vienna, Lower Austria and Burgenland – on the BRISE project (*Building Regulations Information for Submission Envolvement*). The aim of the project is to fully digitalise the construction permit proceedings from application through to approval, primarily with a view to reducing the time required to issue a permit. Thanks to BRISE, the building permit process could be up to 50% faster in future. In the medium term, the fully digital building permit system will also contribute to the development of greener, more resource-efficient building methods, because it integrates all of the necessary assessment mechanisms, quality criteria, and standards and in some cases automatically ensures compliance. The fact is that the BRISE project is designed not only to serve the City of Vienna, but it has ambition to allow cities across Europe to learn from the experience gathered in Vienna, serving as a blueprint for replication and transfer to other scenarios and dimensions. In this respect, one may expect the proliferation of technologies, allowing for *automatization in construction permit proceedings* in Europe in the future.

This issue of the *Acta Universitatis Carolinae Iuridica* presents articles, addressing both the phaenomenon of *regulatory sandboxes* and the feature of *automatization of the administrative decision-making*. The articles, published in this issue, were written by academicians, teaching and researching law at the universities in the Czech Republic, Denmark, Italy, the Netherlands, Slovakia, and Switzerland. The mere fact that academicians from all these different jurisdictions can discuss and refer to the very same phenomenon and features clearly demonstrates, that the *ubiquity of technology* and the subsequent cross-fertilisation of regulatory tools has implied a gradual shift towards a *transnational administrative law* in Europe.

Having said this, this issue of *Acta Universitatis Carolinae Iuridica* does not represent a timely contribution of the scholarship of administrative law on the phaenomena of *regulatory sandboxes* and *automatization of the administrative decision-making*. The

[5] See GARCÍA FERNÁNDEZ, Á. How to regulate the future of technology. *East-West Studies*. 2019, Vol. 10, No. 1, pp. 2–8.

authors of the papers published here do believe, both these phaenomena represent a feature, which will increasingly shape the structures of administrative law in the future. Thus, this issue has the ambition to contribute to the debate about the future of administrative law as a distinctive academic discipline itself.

Having said this, it also must be mentioned that the EU AI Act was adopted by the European Parliament only very few weeks before the publication of this journal. The authors did their best to reflect the adoption of this new regulatory framework in their articles.

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DOI: 10.14712/23366478.2024.18

TRACING THE EVOLUTIONARY PATH OF EXPERIMENTAL LAW: FROM COMPARATIVE LAW TO REGULATORY SANDBOXES[1]

ALEXANDRE FLÜCKIGER

Abstract: This paper explores the evolution of the experimental paradigm in legal frameworks, tracing its development from early influences in comparative law to the contemporary application of regulatory sandboxes. It begins with the integration of empirical methods inspired by scientific research into the field of law. The exploration covers various aspects of experimental law, including federalism, comparative law, legisprudence, emergency and incremental legislation, soft law, sunset legislation, temporary regulations, and experimental legislation *stricto sensu*. The paper concludes by discussing the challenges and implications of balancing experimental law's flexibility with the need for legal stability and security.

Keywords: experimental law; evidence-based legislation; legisprudence; technological innovation in law; legal security; regulatory sandboxes

DOI: 10.14712/23366478.2024.19

1. INTRODUCTION

I will trace in this paper the sources and the evolution of the experimental paradigm in the field of law. My exploration highlights the shift towards an experimental, evidence-based approach in legal frameworks, influenced by the empirical methods used in scientific research. I discuss how legal pioneers like Jeremy Bentham championed the idea of a trial-and-error approach in legislation, setting the stage for modern developments like regulatory sandboxes. These sandboxes represent the latest step in this evolutionary journey, offering controlled environments for testing new models, especially in rapidly advancing sectors like finance and technology. Through this exploration, I underscore the dynamic nature of legal systems, constantly adapting to meet the needs of a changing society and technological landscape.

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

2. EXPERIMENTAL RATIONALITY AND THE LAW

2.1 LAW'S EVOLVING RATIONALITY

Very early on, the science of legislation felt the need to anchor its rational foundations in step with the evolution of epistemological debate triggered by the development of the sciences.

Numerous legal scholars in the late 19th century suggested approaching law as an experimental science. This was a response to the perceived limitations of logico-deductive reasoning as being overly abstract for accurately representing the complexities of legal dynamics. This approach was inspired by Claude Bernard's principles outlined in his 1865 work, "Introduction à l'étude de la médecine expérimentale". Bernard's method emphasized the importance of observing facts, developing explanatory hypotheses, and conducting experiments to evaluate these hypotheses' validity.[2] I'll mention just one legal scholar: Jean Cruet, who developed this proposal for legislatures in 1908. He urges the latter to *"proceed, like nature, by retouching, and by trial and error"*.[3] The aim is to keep the law alive and constantly evolving in step with society.[4]

Empiricism prevails in this vision; legislation is to be based on facts (evidence based law-making)[5] and will produce the effects it aims to promote. It will thus be capable of achieving the goals it has set itself, i.e., it will become effective. In this way, it bears witness to its rationality, i.e., to the non-arbitrary nature of the measures it provides for.

2.2 PRECURSORS OF EXPERIMENTAL LAW

Jean Cruet concluded his 1908 work, "La vie du droit et l'impuissance des lois", (The Life and the Impotence of Laws) with a particularly explicit and emphatic summation: he enjoined jurists to write an "Introduction à l'étude de la législation expérimentale" (Introduction to the Study of Experimental Legislation),[6] a work he himself did not have the time to write due to his untimely death.[7]

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2 See FLÜCKIGER, A. *(Re)faire la loi: traité de légistique à l'ère du droit souple*. Berne: Stämpfli, 2019, p. 45.

3 *"La loi est une règle faite pour toujours, mais, afin de rester vivante, elle doit sans cesse évoluer. Nous n'avions pas tort de parler d'une antinomie logiquement irréductible. Mais cette antinomie s'atténue pratiquement au point de disparaitre, si le législateur accepte de bonne grâce la collaboration de la coutume et de la jurisprudence, et s'il sait d'autre part, lorsqu'il veut faire œuvre de création juridique, procéder, comme la nature, par retouches, et par tâtonnements, et, comme elle, aller du détail au principe, du particulier au général, de la variété à l'uniformité."* (CRUET, J. *La vie du droit et l'impuissance des lois*. Paris: Flammarion, 1908, p. 304).

4 FLÜCKIGER, *(Re)faire la loi*…, p. 46.

5 Ibid., p. 186 ff.

6 *"Se trouvera-t-il parmi les juristes un Claude Bernard pour écrire une Introduction à l'étude de la législation expérimentale ? Elle ne serait pas inutile assurément à l'éducation politique de la nation souveraine et de ses représentants."* (CRUET, *c. d.*, p. 336).

7 FLÜCKIGER, *(Re)faire la loi*…, p. 660.

The doctrinal exploration and definition of experimental law began in earnest at least from the 1820s onward.[8] Jeremy Bentham had suggested in the 1820s that the legislature *"will be well advised to apply it 'by trial' and to test, almost experimentally, its effects"*.[9] Inspired by the book by French engineer and economist Léon Donat, English jurist James Williams categorized *"the legislation of the Parliament of the United Kingdom from its experimental side"* into five characteristics, including restriction of duration and limitation of territorial scope.[10]

In 1881, Julius Ofner, a distinguished Austrian jurist and politician, delivered a thought-provoking lecture in which he posed a critical question to his audience: to what extent should experimentation be allowed within the realm of legislative processes?[11] He admitted that an experimental approach was a departure from the spirit of the historical school, but he took as an example the Code of Western Galicia, introduced with the explicit intention, if it proved successful, of extending it to the whole of Austria.[12]

3. FIGURES OF EXPERIMENTAL LAW

3.1 INTRODUCTION

I will examine in this chapter various forms of experimental law, starting with the role of federalism and comparative law as early forms of legal experimentation and concluding with experimental law in the strict sense.

3.2 FEDERALISM AND COMPARATIVE LAW

Federalism was very early on seen as an experimental laboratory for testing a solution locally before extending it to the entire federation. U.S. James Williams (1889), Jean Cruet (1908), or Supreme Court Justice Louis Brandeis (1932), all noted this.[13] For example, the latter: *"a single courageous State may, if its citizens choose,*

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[8] In her work, Ranchordás discusses the early origins of experimental legislation, tracing it back to the era of Louis XVI in France, suggesting that the roots of this approach can be found much earlier than commonly thought (RANCHORDÁS, S. *Constitutional Sunsets and Experimental Legislation: a Comparative Perspective*. Cheltenham: Edward Elgar, 2014, p. 25). While Frederic Beutel (BEUTEL, F. *Some Potentialities of Experimental Jurisprudence as a New Branch of Social Science*. Lincoln: The University of Nebraska Press, 1957) is sometimes cited in legal doctrine as a significant figure in the development of experimental legislation, it's not accurate to label him the sole "father" of this concept.

[9] *Le législateur "sera bien avisé* [de] *faire application* [de la loi] *'à l'essai' et d'en éprouver, quasi expérimentalement, les effets"* (ref. cited in: FLÜCKIGER, *(Re)faire la loi*…, p. 662).

[10] WILLIAMS, J. Experiment in Legislation. *Law Magazine and Review*. 1889, Vol. XIV, p. 301 ff.

[11] OFNER, J. "Das Experiment im Recht". Vortrag, gehalten in der Juristischen Gesellschaft in Wien am 28. Dezember 1881. In: OFNER, J. (ed.). *Beiträge zur exakten Rechtswissenschaft*. Wien, 1883, p. 7 ff.

[12] FLÜCKIGER, *(Re)faire la loi*…, p. 661.

[13] Ref. cited in: FLÜCKIGER, *(Re)faire la loi*…, p. 670.

serve as a laboratory; and try novel social and economic experiments without risk to the rest of the country".[14]

Comparative law, too, assumes the status of an experimental laboratory, as long as one considers the possible legislative transplants in their concrete impacts and not solely in their textual perspective. For Peter Noll, often regarded as the father of legisprudence (*Gesetzgebungslehre*, *légistique*) in Switzerland, comparative law (and even history of law) somewhat assumes the status of an experimental laboratory as soon as the comparison aims to analyse the way in which factual problems have been differently addressed: *"The comparison of norms that have applied or apply in different times (legal history) or in different places (comparative law) says little in itself about the appropriateness or justice of these norms. Rather, it is necessary to assign to the norms the factual problems they have or have not solved. Only then can historical or contemporary comparative law claim the approximate cognitive value of an experiment."*[15]

3.3 LAW IN ITS EVALUATION CYCLE

For proponents of a non-formalist conception of law, every new law can be seen as an experiment in a broad sense.[16] This opinion was already encountered as early as 1852: *"All new laws* […] *are in the nature of experiments. They are not indeed scientific experiments, but they are experiments made for a practical purpose, and they are regarded merely as provisional and tentative until experience has proved their fitness, and they are confirmed by the proof of practical success."*[17]

More recently, *legislative evaluation*, as encompassed within the framework of *legisprudence*, particularly in its substantial aspect (légistique matérielle),[18] firmly establishes the experimental character of all new legislation. This approach insists on the necessity for laws to be adaptive and learn from real-world experiences (feedback principle). This highlights the role of *policy evaluation* in the legislative cycle.[19]

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[14] Supreme Court of the United States decision from 21 March 1932 (*New State Ice Co. v. Liebmann*), 285 U.S. 262, p. 311.

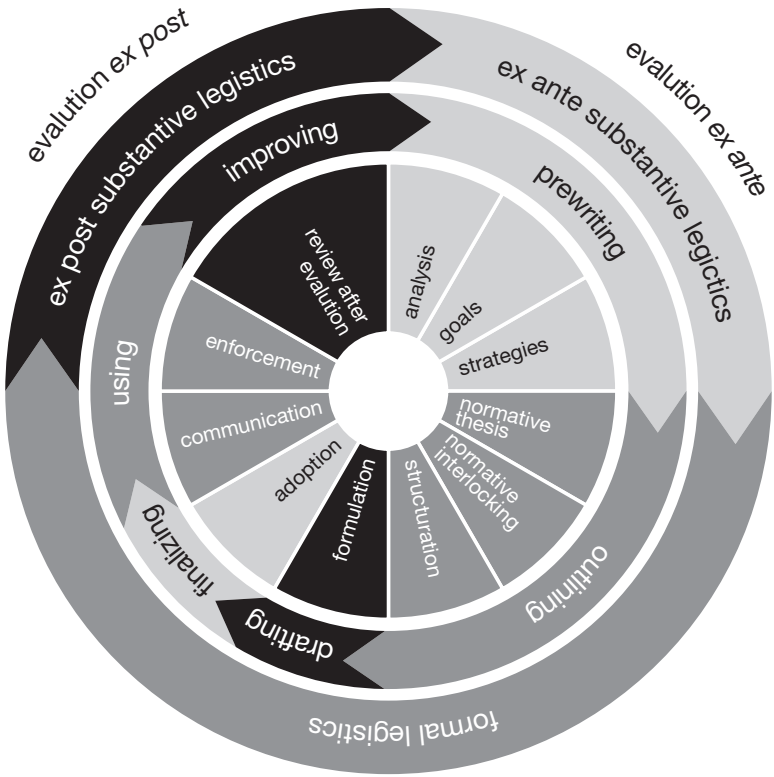
[15] NOLL, P. *Gesetzgebungslehre*. Reinbek: Rowohlt, 1973, p. 88 [personal translation]: *"Der Vergleich von Normen, die in verschiedenen Zeiten (Rechtsgeschichte) oder an verschiedenen Orten (Rechtsvergleichung) gegolten haben oder gelten, sagt für sich allein wenig über Zweckmäßigkeit oder Gerechtigkeit eben dieser Normen aus. Erforderlich ist vielmehr, daß den Normen die von ihnen bewältigten oder nicht bewältigten faktischen Probleme zugeordnet werden. Erst dann nämlich kann die historische oder auf die Gegenwart bezogene Rechtsvergleichung annäherungsweise den Erkenntniswert eines Experiments beanspruchen."*

[16] FLÜCKIGER, *(Re)faire la loi*…, p. 662.

[17] LEWIS, G. *A treatise on the methods of observation and reasoning in politics*. London: John W. Parker, 1852, as cited in: WILLIAMS, *c. d.*, p. 301.

[18] FLÜCKIGER, *(Re)faire la loi*…, p. 33 ff.

[19] FLÜCKIGER – POPELIER, *c. d.*, p. 64.



Source: Adapted from FLÜCKIGER, *(Re)faire la loi*…, p. 38[20]

3.4 INCREMENTAL LEGISLATION

I define incremental legislation as the successive amendment of a law at short intervals to ensure that each added value brings an improvement.[21] The acceleration of legislative revisions until a more or less stable situation has been consolidated can be seen as a phase of experimentation, all the more so if these revisions were to form part of successive impact analyses and cycles of prospective and retrospective evaluation.

The COVID pandemic offers an enlightening example. It demonstrated a truly experimental method of legislative drafting, improving the text in real time by trial and error, with extreme reactivity in the corrections.[22]

The method is actually old. François Gény's interpretation of the series of amendments made to the French Civil Code in the late 19th century, which focused on the

[20] Ibid., p. 65.
[21] FLÜCKIGER, A. Le droit expérimental: potentiel et limites en situation épidémiologique extraordinaire. *Sécurité et droit*. 2020, Vol. 3, pp. 142–158, p. 156.
[22] Ibid., p. 156.

financial independence of married women demonstrates this. In his "Science et technique en droit privé positif" (1913), Gény viewed these legal changes as part of an experimental phase in law, reflecting the evolving understanding and application of legal principles in response to social changes.[23]

3.5 EMERGENCY LEGISLATION

Emergency legislation serves as a rich field for legal experimentation. Federal emergency law in Switzerland, such as the measures implemented during the COVID pandemic, represents a temporary legal framework that facilitates the testing of novel measures. Even though these laws were lacking a formal mandate for subsequent evaluation, there exists an implicit requirement to assess their effects.

This obligation is rooted in constitutional provisions, including Article 170 of the Federal Constitution, which focuses on efficacy, as well as Articles 5(2) and 9, which pertain to proportionality and the prevention of arbitrary actions. Therefore, while not explicitly mandated, the evaluation of these emergency laws is implicitly guided by these constitutional principles.[24]

3.6 SOFT LAW IN ITS EXPERIMENTAL FUNCTION

Soft law also has an experimental function. It uniquely facilitates the trial of emerging regulations in a pre-legal context, promoting a gradual acclimatization process. This approach gently acquaints the intended addressees with evolving behavioural standards. Once these standards achieve a certain maturity, they become poised for transition into enforceable regulations. I describe this process of law creation as the gradual crystallization of soft law into hard law.[25]

One can say that it enhances the acceptance of a measure among its target audience via a habituation effect, thereby boosting its effectiveness, which translates to greater compliance by the population. A law that becomes too stringent too rapidly can be counterproductive; conversely, a law that intensifies progressively tends to be adhered to more effectively.

From this perspective, soft law acts much like a legal laboratory, enabling a nuanced and progressive assessment of the potential impact of new regulatory frameworks.

This phenomenon is obvious in various contexts.

At the national level in Switzerland, it was observed in speed limits, smoking bans in public places, seat belt usage, or the mandate for wearing masks during the COVID pandemic. In the European Union, a similar pattern is seen in the development of the Charter of Fundamental Rights of the European Union. Globally, the Universal Declaration of Human Rights serves as another noteworthy example.[26]

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[23] See FLÜCKIGER, *(Re)faire la loi*…, p. 669 for references and further examples.
[24] FLÜCKIGER, *Le droit expérimental*…, p. 154.
[25] FLÜCKIGER, *(Re)faire la loi*…, p. 300.
[26] Ibid., p. 303.

3.7 SUNSET LEGISLATION AND TEMPORARY REGULATIONS

"Sunset legislation" refers to a temporary regulatory act subject to review, with its extension contingent on evaluation. This concept involves the enactment of laws or regulations for a specified period, and their continuation depends on a thorough assessment of their effectiveness.[27]

By limiting the duration of regulations, this type of law was intended to curb state intervention by slowing normative growth. So, to clarify, sunset legislation is not strictly experimental by its intention. However, the temporary nature and subsequent evaluation indicate that a regulation model has been, in fact, tested for a certain period.[28]

Temporary regulation often becoming durable is a phenomenon observed in regulatory frameworks. Initially, these measures are introduced for a limited period to test new concepts or address specific issues. However, over time, they can become entrenched in the system, evolving from temporary solutions to permanent fixtures.

The idea that provisional regulations may (possibly inadvertently) become permanent can be explored through the example of Euratom. The Euratom Community, initially established as a time-limited sandbox, showcases the phenomenon of "The Splendid Durability of the Provisional".[29] This concept illustrates how temporary measures, designed for interim solutions, can gain a sense of permanence. In the case of Euratom, what was intended as a provisional arrangement evolved into a lasting structure.

3.8 EXPERIMENTAL LEGISLATION (*STRICTO SENSU*)

Experimental legislation (*stricto sensu*) aims to test new rules according to a predetermined scientific protocol. While there are various approaches, proponents of rigorous experimentation in law only acknowledge the presence of experimental legislation when it incorporates counterfactual analysis protocols.[30] These protocols are employed to assess the effects of a measure on a sample of individuals and compare it against a control group. This form of legislation allows for some relaxation of certain legal requirements, at least to some extent, as it puts the principle of equal treatment and legal certainty to the test, among other things.

The roots of experimental legislation are ancient. Jeremy Bentham suggested in 1820 that the legislature *"would be wise to apply it 'experimentally' and test its effects, almost experimentally"*.[31] Since then, numerous examples have emerged.

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[27] Ibid., p. 655 ff.

[28] For the distinction between sunset laws and experimental law in the strict sense, refer to FLÜCKIGER, *(Re)faire la loi*…, p. 658 ff; RANCHORDÁS, *c. d.*

[29] HANDRLICA, J. The Splendid Durability of the Provisional: A Tribute to Euratom. *Croatian Yearbook of European Law and Policy*. 2018, Vol. 14, No. 1, p. 161 ff.

[30] RANCHORÁS, *c. d.*, p. 37 ff.

[31] Cited in: OST, F. Codification et temporalité dans la pensée de J. Bentham. In: GÉRARD, F. – OST, F. – VAN DE KERCHOVE, M. (eds.). *Actualité de la pensée juridique de Jeremy Bentham*. Bruxelles: Presses universitaires Saint-Louis Bruxelles, 1987, p. 225.

For instance, in 1982, the Federal Supreme Court in Switzerland acknowledged that the Government had the right to enact, as an experiment, a temporary speed limit regulation of 50 km/h in urban areas without violating the principle of equal treatment.[32]

Since 2021, the Swiss Federal Office of Public Health can authorize scientific pilot trials for narcotics with cannabinoid-like effects, subject to strict conditions. These trials are limited in scope and duration, aiming to assess the impact of new regulations on non-medical drug use while ensuring public health and safety. The legislation has a ten-year validity period.[33]

Regulatory sandboxes,[34] used for example in finance[35] or in new technologies (AI),[36] can be considered as the most recent examples of experimental law. As these are controlled environments where businesses can test new innovations and technologies within a regulated framework without strict adherence to standard rules, it allows authorities to monitor and assess the impacts of these innovations before deciding on formal regulations. In essence, regulatory sandboxes represent a modern approach to experimental law, fostering innovation while maintaining a flexible and adaptable regulatory framework.

Experimental law in the strict sense is admissible provided that it respects the *general principles of public law*, notably that of legal basis, proportionality, and equality of treatment. The Swiss government has set several conditions:[37]

- inclusion in a *formal law* if the experimentation implies derogating from the ordinary legal regime; exceptionally, an ordinance is sufficient if the experimentation brings benefits to the addressees, respects the purpose of the law, is very limited in scope and if the government has given a mandate to create the formal legal basis within a reasonable timeframe;
- derogation rules have to be set in an *ordinance of the government*, as well as, as substantially as possible, the broad outlines of the experiment;
- existence of a *clear legal basis* in the event of serious infringement of fundamental rights;
- *reversibility* of experimentation;
- *proportionality* of experimentation (giving priority to trials based on *voluntary participation* and allowing participants in an experiment to *switch to ordinary law* within a short timeframe (e.g., social insurance experiment);
- *transparency* (the *experimental nature* must be *explicitly stated* in the act and no solution presented as experimental should be adopted when it is known from the outset that they are *definitive* in nature);

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32 See below.

33 Art. 8a Federal Act on Narcotics and Psychotropic Substances of 3 October 1951.

34 VOLZ, S. KI-Sandboxen für die Schweiz? *Schweizerische Zeitschrift für Wirtschafts- und Finanzmarkttrecht SZW*. 2022, Nr. 1, pp. 51–68.

35 PARENTI, R. – European Parliament, Policy Department for Economic, Scientific and Quality of Life Policies, Directorate-General for Internal Policies. *Regulatory sandboxes and innovation hubs for FinTech: impact on innovation, financial stability and supervisory convergence*. Luxembourg: European Parliament, 2020.

36 BUOCZ, T. – PFOTENHAUER, S. – EISENBERGER, I. Regulatory sandboxes in the AI Act: reconciling innovation and safety? *Law, Innovation and Technology*. 2023, Vol. 15, No. 2, pp. 357–389.

37 Ref. cited in FLÜCKIGER, *(Re)faire la loi*…, p. 671 ff.

– limitation of *duration* and *personal or territorial scope*; and
– introduction of a *monitoring and evaluation* procedure, including criteria and resources for this purpose.

The Swiss Federal Court established in 1982 a significant precedent regarding *equal treatment* in the context of traffic regulations. It has been determined that the Federal government's authority to set general speed limits inherently includes the right to implement temporary regulations on an experimental basis. These trial regulations may be localized and not uniformly applied across the entire territory. This approach is seen as a step towards establishing well-founded, definitive standards. Importantly, this method does not contravene the principle of equal treatment.[38]

When it comes to the *proportionality principle*, the Swiss Federal Court has provided guidance on the use of legal experimentation, especially in scenarios where the effects of a law are uncertain. Experimentation serves as a tool to assess the efficacy of a law in achieving its intended objectives. There exists not only a right but, in certain cases, an obligation to conduct trials for potentially effective measures within a framework of controlled risk. This obligation is particularly relevant when there's ambiguity about the impact of specific measures. For example, in the context of introducing a 30 km/h speed limit, a temporary trial might be imperative to gauge its effectiveness.[39]

4. CONCLUSION

Experimental law has long stood as a cornerstone in the evolving landscape of legal frameworks, continually adapting to meet the dynamic needs of society. In this tradition, the regulatory sandbox emerges as the latest innovation, representing a significant leap forward in legal experimentation. This concept, blending flexibility with structured oversight, offers a unique platform for testing new ideas, technologies, and approaches within a controlled environment.

The point about the experimental approach grounding legal evolution in real-world experience rather than in abstract theory or false promises, while seen as a *strength*, also harbours a potential *negative* aspect. The process of acclimating citizens to new rules through practical experience, although advantageous politically, can be perceived as manipulative. This perception arises because such an approach might seem like a subtle way to shape public opinion and behaviour under the guise of experimentation. While it fosters organic acceptance of legal changes, there's a fine line between guiding public adaptation to new regulations and manipulating the populace into accepting new norms without sufficient critical scrutiny. This duality underscores the complexity of using the experimental approach in lawmaking. These nuanced aspects of the experimental approach in law align well with the theories of early thinkers like Machiavelli and Bentham. It is not very surprising to find echoes of this concept in their work.[40]

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38 ATF (Official Collection of the Federal Supreme Court Decisions) 108 [=1982] IV 52, p. 54 ff.
39 Swiss Federal Supreme Court, Decision 1C_589/2014 (2016).
40 Ref. cited in FLÜCKIGER, *(Re)faire la loi*…, p. 47, footpage 291.

However, epistemological research, particularly the works of Gaston Bachelard and Karl Popper, has raised questions about the *objectivity* of the experimental method, even in the exact sciences. Issues such as perception being an obstacle to empirical observation, the necessity of interpreting reality, and the provisional nature of theoretical truth suggest that the experimental approach may not be a foolproof method of ensuring objectivity.[41]

A significant challenge lies in balancing the *flexibility* of experimental law with the need for *legal security* and rule stability. Frequent changes or experimental iterations in law might undermine this stability, creating uncertainty and potentially disrupting the social order. Therefore, while the experimental approach in law offers a dynamic way to address evolving societal needs, it must be balanced against the need for consistency, security, and predictability of the legal system.

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[41] Ibid., p. 47.

FINANCIAL INNOVATIONS IN CZECHIA: CONSIDERATIONS FOR ESTABLISHMENT OF REGULATORY SANDBOX[1]

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Abstract: The regulatory sandbox has been established in many EU Member States as well as developed non-EU countries as a tool for fostering financial innovation. On the contrary, the Czech Republic has not yet prepared a sandbox. The article introduces the topic, discusses the sandbox in the European and international context, and briefly explains the history and current status of financial innovations in the Czech Republic. The authors also discuss the OECD report on recommendations for the design of the FinTech Sandbox. Recommendations of which they find to be unsuitable for implementation due to the fundamental flaws of the report and the omission of an analysis of the Czech legal system. Finally, the authors of this article elaborate on the various options and parameters for the Czech sandbox.
The authors recommend implementing a legal definition of a sandbox in the Czech legal system. Also, the authors call for the establishment of a sandbox that could support the development of financial innovation as Czech consumers show a particularly supportive stance towards new technologies.

Keywords: FinTech; Financial Innovation; Sandbox; Regulatory Sandbox; financial markets

DOI: 10.14712/23366478.2024.20

1. INTRODUCTION

Due to the technological progress and rapid proliferation of new technologies in many industries in the past decades, the policy debate over the development of financial markets centered around *"financial innovation"*. This term encompasses various elements that shall improve the functioning of financial markets in different ways, such as new financial products, innovative digital tools, process improvements, or emerging business models, including FinTech (FinTech means connection between Finance and Technology). The aim of financial innovation is to increase the efficiency of financial markets. The empirical evidence shows that financial innovation can be a driver of the economic growth and has a potential to increase market efficiency.[3]

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

[2] Opinions in this article are the authors' own and cannot be attributed to any affiliation or company.

[3] GOO, J. J. – HEO, J. The Impact of the Regulatory Sandbox on the Fintech Industry, with a Discussion on the Relation between Regulatory Sandboxes and Open Innovation. *Journal of Open Innovation:*

Besides, it also brings new challenges and risks to the market. Public authorities face a traditional free market vs. regulation dilemma, which materializes in the "trade-off" between encouraging innovations in order to improve efficiency and restricting new approaches for the sake of protecting market participants and market integrity.[4]

The innovation policy is usually defined by the regulatory frameworks that are adopted to create a level-playing field, particularly in regulated markets. In the context of financial innovations, the debate intensified over new approaches called "regulatory sandbox".[5] Sandboxes shall have a role in the adoption of new technology under supervision.[6] In the case of regulated markets, regulatory sandboxes allow to ease legal barriers for a technological solution, while at the same time, the framework is set up to preserve market integrity, ensure the protection of market participants (consumers in particular), and maintain financial stability.[7] In other words, regulators allow businesses to test new technologies on a small scale and under strict supervision. After the testing period, the evaluation is carried out.[8] The regulatory sandbox is a mechanism for promoting technological innovation that has become embedded in the public policy of some countries. Given the rising popularity of sandboxes, a significant number of jurisdictions adopted some forms of regulatory sandboxes. Different approaches of lawmakers can be explored. Regulatory sandboxes can be examined from a variety of perspectives, including comparisons between jurisdictions aiming to find the best-fitting model. Although the introduction of regulatory sandboxes into jurisdictions has been mostly linked to financial innovations, particularly the promotion of FinTech, sandboxes appear to be applicable to other regulated markets, too.[9]

Since the adoption of the first sandbox into UK law in June 2016, the number of "sandboxed" jurisdictions increased. In the EU, the vast majority of Member States adopted measures defining "regulatory sandbox". Different regulatory designs may be observed in jurisdictions. This paper aims to analyze the Czech Republic's approach in

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Technology, Market, and Complexity [online]. 2020, Vol. 6, No. 2, p. 43 [cit. 2024-02-26]. Available at: https://doi.org/10.3390/joitmc6020043.

4 BROWN, E. – PIROSKA, D. Governing Fintech and Fintech as Governance: the Regulatory Sandbox, Riskwashing, and Disruptive Social Classification. *New Political Economy*. 2021, Vol. 27, No. 1, pp. 19–32.

5 ALLEN, H. J. Regulatory Sandboxes. *George Washington Law Review*. 2019, Vol. 87, No. 3, pp. 579–645.

6 HESEKOVÁ BOJMÍROVÁ, S. FinTech and Regulatory Sandbox – new challenges for the financial market: the case of the Slovak Republic. *Juridical Tribune / Tribuna Juridica* [online]. 2022, Vol. 12, No. 3, pp. 399–411 [cit. 2024-02-26]. Available at: http://www.tribunajuridica.eu/arhiva/An12v3/6.%20Hesekova%20Bojmirova.pdf.

7 ZETZSCHE, D. A. Regulating a Revolution: from Regulatory Sandboxes to Smart Regulation. *Fordham Journal of Corporate & Financial Law* [online]. 2017, Vol. 23, No. 1, pp. 31–103 [cit. 2024-02-26]. Available at: https://ir.lawnet.fordham.edu/jcfl/vol23/iss1/2/.

8 RINGE, W. – RUOF, CH. Regulating Fintech in the EU: the Case for a Guided Sandbox. *European Journal of Risk Regulation* [online]. 2020, Vol. 11, No. 3, pp. 604–629 [cit. 2024-02-26]. Available at: https://www.cambridge.org/core/journals/european-journal-of-risk-regulation/article/regulating-fintech-in-the-eu-the-case-for-a-guided-sandbox/3EE71CEEB3BC22E57A1BF08023073A6F.

9 AHERN, D. *Regulators nurturing fintech innovation: global evolution of the regulatory sandbox as opportunity based regulation* [online]. European Banking Institute Working Paper Series, No. 60. Frankfurt: European Banking Institute, 2020 [cit. 2024-02-26]. Available at: https://www.academia.edu/42204715/Regulators_Nurturing_FinTech_Innovation_Global_Evolution_of_the_Regulatory_Sandbox_as_Opportunity_based_Regulation.

the area of financial innovation and, based on the relevant solutions of other countries, propose options for sandboxing in the Czech Republic. The authors intend to draw possible policy recommendations from these observations.

2. REGULATORY SANDBOX IN THE INTERNATIONAL AND EUROPEAN CONTEXT

Regulatory sandboxes have different forms in different jurisdictions. Definitions of sandboxes vary, but they mostly reflect universality. The International Monetary Fund (IMF) understands the sandbox as follows: *"controlled environment for firms to test their innovative propositions on real consumers"*.[10]

The very first sandbox adopted by the Financial Conduct Authority (FCA) in the UK was based on the idea of a financial market regulator allowing the testing of new technology solutions under supervision. The European Commission (EC) has included sandboxes in its policy tools inventory titled as a *"Better Regulation Toolbox"* while defining a regulatory sandbox as *"a scheme that enables firms to test innovations in a controlled real-world environment, under a specific plan developed and monitored by a competent authority"*.[11] Inspired by the original definition of the European Commission, the Council of the EU, in its Council Conclusions, states the following with regard to the regulatory sandboxes: *"Council perceived the regulatory sandbox as concrete framework which, by providing a structured context for experimentation, enable where appropriate in a real-world environment the testing of innovative technologies, products, services or approaches – at the moment especially in the context of digitalisation – for a limited time and in a limited part of a sector or area under regulatory supervision ensuring that appropriate safeguards are in place."*[12]

For the financial markets, where the sandbox was first ever applied, a definition developed by the European Supervisory Authorities (ESAs)[13] was established at the EU level: *"scheme set up by a competent authority that provides regulated and unregulated entities with the opportunity to test, pursuant to a testing plan agreed and monitored by a dedicated function of the relevant authority, innovative products or services, business models, or delivery mechanisms, related to the carrying out of financial services"*.[14]

In the EU, policies across Member States are coordinated by the European Forum for Innovation Facilitators (EFIF), serving as a platform for supervisory authorities. The

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[10] BAINS, P. – WU, C. *Institutional Arrangements for Fintech Regulation: Supervisory Monitoring*. Fintech Notes, No. 2023/004. International Monetary Fund, 2023.

[11] Better regulation toolbox. In: *European Commission: Better regulation: guidelines and toolbox* [online]. 20. 7. 2023 [cit. 2024-02-26]. Available at: https://commission.europa.eu/law/law-making-process/planning-and-proposing-law/better-regulation/better-regulation-guidelines-and-toolbox_en.

[12] Council of the European Union. Conclusions 13026/20 on Regulatory sandboxes and experimentation clauses as tools for an innovation-friendly, future-proof and resilient regulatory framework that masters disruptive challenges in the digital age, from 16 November 2020 [online]. 2020 [cit. 2024-02-26]. Available at: https://data.consilium.europa.eu/doc/document/ST-13026-2020-INIT/en/pdf.

[13] European Supervisory Authorities: European Banking Authority (EBA), European Securities and Markets Authority (ESMA) and European Insurance and Occupational Pensions Authority (EIOPA)

[14] ESAs Joint Report. FinTech: Regulatory sandboxes and innovation hubs. 7 January 2019.

platform aims to exchange regular insights gathered from their engagement with market participants. The EFIF promotes innovation hubs and regulatory sandboxes in Member States. Competent authorities share expertise aiming to establish common perspectives on the approaches to innovative financial products, services, and new business models. Based on the reports from December 2023, 12 EU Member States have adopted regulatory sandboxes in their jurisdictions.[15]

Research outcomes show the positive impact of regulatory sandboxes on investment in the FinTech industry. Based on the research conducted in nine countries (the United Kingdom, Singapore, Hong Kong, Australia, India, Canada, Malaysia, The Netherlands, and Japan), the introduction of regulatory sandboxes was proven to lead to a significant increase in investment and boost to financial market dynamics. Regulatory sandboxes should promote greater investment in the FinTech industry and foster an open innovation ecosystem by encouraging capital flows into the economy. The regulatory sandbox may serve as a catalyst by contributing to the commercialization of financial innovations and by creating collaborative environments between governments and traditional and new financial market participants.[16]

3. FINANCIAL INNOVATIONS IN THE CZECH REPUBLIC – STATE OF ART

The Czech economy seems to have favorable conditions for financial innovation. Although being a member of EFIF, unlike other EU countries, the Czech Republic has not yet adopted sandbox legislation, which could be an obstacle to the development of financial innovation or digital innovation in particular.[17]

According to the World Bank (WB),[18] Czech consumers show an openness to using digital services and make frequent use of online financial services, such as online payments or investing applications. Banks are highly digitized and enjoy high customer confidence. In addition, many consumers are used to making online purchases through e-commerce vendors. The Czech Republic has the 8th highest share of online purchases among EU countries.[19] According to the European Innovation Scoreboard, the Czech Republic is, however, a "moderate innovator country", being slightly below the EU average.[20] The Czech financial market is dominated by banks that show strong capitalization. On the other hand, the capital market is underdeveloped, which is a barrier to economic growth as it cannot fulfill its functions sufficiently. Even though financial

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15 ESAs Joint Report. Update on the functioning of innovation facilitators – innovation. 11 December 2023.

16 GOO – HEO, *c. d.*

17 ESAs Joint Report. Update on the functioning of innovation facilitators – innovation hubs and regulatory sandboxes. 11 December 2023.

18 The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19. In: *World Bank* [online]. [cit. 2024-02-26]. Available at: https://www.worldbank.org/en/publication/globalfindex.

19 European E-Commerce Report 2022. In: *COMMERCE EUROPE* [online]. [cit. 2024-02-26]. Available at: http://www.ecommerce-europe.eu.

20 *European Innovation Scoreboard 2022: Country Profile: Czechia* [online]. 2022 [cit. 2024-02-26]. Available at: https://ec.europa.eu/assets/rtd/eis/2022/ec_rtd_eis-country-profile-cz.pdf.

innovations seem to be dominated by banks, we may find a dynamic FinTech sector in the Czech Republic.[21] Around 110 FinTech companies are present in different financial services following the global growth trend of strong growth performance and thus represent a promising base for financial innovations.[22]

The legal framework for financial markets in the Czech Republic is predominantly influenced by EU legislation. Besides the regulations that are directly applicable, EU directives are transposed into laws adopted by the Parliament. In the context of financial innovations, Czech entities, as all EU entities, would be affected by the EU Digital Finance Package.[23] Three large pieces of EU legislation in the form of regulations consist of MiCA,[24] DORA,[25] and DLT Pilot Regime.[26] The last mentioned represents an EU-wide sandbox for DLT solutions. Unlike other countries, the Czech Republic has not adopted a legal basis for a national sandbox, unlike other EU Member States.[27]

Financial markets in the Czech Republic are supervised by the Czech National Bank (CNB), which is the only supervisory authority and national competent authority for financial markets. The Ministry of Finance plays the role of regulator by preparing legislation. Both institutions cooperate while respecting their roles. The CNB gives authorization under EU financial regulation to market participants (licensing) and is entitled to impose sanctions for non-compliance.[28] The CNB historically maintains a technology-neutral stance that is often materialized into a rigid view on innovations. Therefore, the *"Wait and See"* approach is usually maintained by the CNB longer than the desired optimum for market dynamics.

Regarding the legal definition of a sandbox in the Czech Republic, it should be stated that no legal definition of a sandbox exists in any of the sectoral laws regulating individual regulated sectors. Nevertheless, the legal certainty connected with the legal definition could help reduce potential barriers and encourage the establishment of sandboxes in some of the regulated areas. Although the sandbox has not yet been established in any sector in the Czech Republic, there are traces of its preparation, especially in

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21 Ministry of Finance. *National Strategy for the Development of the Capital Market in the Czech Republic for the period of 2019–2023* [online]. [cit. 2024-02-26]. Available at: https://www.mfcr.cz/assets/en/media/201903-National-Strategy-CZ-Capital-Market.pdf.

22 Fintechová mapa České republiky – jaro 2022: přes 100 fintechů [Fintech map of the Czech Republic – spring 2022: over 100 fintechs]. In: *FinTech Cowboys* [online]. 28. 4. 2022 [cit. 2024-02-26]. Available at: https://fintechcowboys.cz/fintechova-mapa-ceske-republiky-jaro-2022-pres-100-fintechu/.

23 Digital Finance Package. In: *European Council: Digital finance* [online]. [cit. 2024-02-26]. Available at: https://www.consilium.europa.eu/en/policies/digital-finance/.

24 Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937.

25 Regulation (EU) 2022/2554 of the European Parliament and of the Council of 14 December 2022 on digital operational resilience for the financial sector and amending Regulations (EC) No 1060/2009, (EU) No 648/2012, (EU) No 600/2014, (EU) No 909/2014 and (EU) 2016/1011.

26 Regulation (EU) 2022/858 of the European Parliament and of the Council of 30 May 2022 on a pilot regime for market infrastructures based on distributed ledger technology, and amending Regulations (EU) No 600/2014 and (EU) No 909/2014 and Directive 2014/65/EU.

27 ESAs Joint Report. Update on the functioning of innovation facilitators – innovation hubs and regulatory sandboxes. 11 December 2023.

28 Supporting FinTech Innovation in the Czech Republic: Regulatory Sandbox Design Considerations. In: *OECD iLibrary* [online]. 21. 6. 2023 [cit. 2024-02-26]. Available at: https://doi.org/10.1787/081a005c-en.

the financial sector. Considering that many of the other EU countries had already implemented regulatory sandboxes and that financial market players themselves consider sandboxes as a useful tool to foster innovation, a proposal for a Financial Innovation Hub was prepared in 2019 using a bottom-up approach. The proposal has been prepared by the fintech market players and their professional association – Czech Fintech Association. The Czech Ministry of Finance agreed to the proposal and agreed to take part in the Financial Innovation Hub.[29]

In February 2020, the Digital Finance Outreach event was held in Prague, where the new European initiative – Fintech Action Plan[30] – was presented and discussed. After that, in September 2020, the Digital Finance Strategy was approved by the European Commission, which also includes the EU Digital Finance Platform initiative. The platform offers a collaborative space for innovative companies from the financial sector as well as for national regulators.[31] Moreover, the Council of the European Union also recommended in 2020 that the Member States open regulatory sandboxes.[32] Finally, in 2021, the establishment of the regulatory sandbox was included in the Czech National Recovery and Resilience Plan, according to which the sandbox is expected to be launched by the end of Q2/2024.

4. OECD POLICY RECOMMENDATION: KEY FINDINGS AND SHORTCOMINGS OF THE REPORT

Based on the Technical Support Instrument (TSI)[33] project, the OECD published a report focused on recommendations for the design of the FinTech Sandbox in the Czech Republic in 2023. The original aim of the TSI project was to provide technical assistance for the implementation of component 1.4 of the Czech National Recovery and Resilience Plan (RRP), which aims at the establishment of sandboxes in regulated sectors. However, such results may have not been obtained from the OECD report[34] due to the following substantial shortcomings.

The OECD heavily builds its report on the existing EU sandboxes, favoring the "EU sandbox mainstream". The OECD report recommends applying existing

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29 Ministerstvo financí s Evropskou komisí podporuje finanční inovace [Ministry of Finance and the European Commission support financial innovation]. In: *Ministerstvo financí České republiky* [Ministry of Finance] [online]. 24. 2. 2020 [cit. 2024-02-26]. Available at: https://www.mfcr.cz/cs/financni-trh/inovace-na-financnim-trhu/aktuality/2020/ministerstvo-financi-s-evropskou-komisi-37682.

30 Directorate-General for Financial Stability, Financial Services and Capital Markets Union. FinTech Action plan: for a more competitive and innovative European financial sector. In: *European Commission: Finance: Communication* [online]. 8. 3. 2018 [cit. 2024-02-26]. Available at: https://finance.ec.europa.eu/publications/fintech-action-plan-more-competitive-and-innovative-european-financial-sector_en.

31 Eu Digital Finance Platform. In: *European Commission* [online]. 2020 [cit. 2024-02-26]. Available at: https://digital-finance-platform.ec.europa.eu.

32 Conclusions 13026/20 on Regulatory sandboxes and experimentation clauses as tools for an innovation-friendly, future-proof and resilient regulatory framework that masters disruptive challenges in the digital age…

33 TSI represents an EU programme funded by the European Commission that aims to provide tailor-made technical expertise to Member States in order to help Member States to design and implement reforms.

34 Supporting FinTech Innovation in the Czech Republic…

regulatory requirements while the discretion of authorities to apply rules flexibly with regard to sandbox participants. Moreover, neither market participants in the financial market (especially the FinTech market) nor bodies responsible for the implementation of the sandbox in the Czech Republic (according to the RRP) have been directly consulted during the preparation of the OECD report. Such a desk research approach without involving or consulting relevant stakeholders cannot be suitable for a design proposition of regulatory sandbox. The sandbox should be a helpful tool for fostering innovation in hundreds of financial institutions and innovative businesses. The report claims there is no need to change the legislation without conducting any legal analysis. The report works with assumptions from other EU countries, where sandbox was launched by the project of the financial supervisor or the central bank. The OECD did not explore other options or compatibility of such a solution with the Czech legal system. The report simply leverages on the fact that the majority of EU regulatory sandboxes encompass the entire financial sector or operate collaboratively among sectoral supervisors. The OECD differentiates between standard sandboxes and data sandboxes while making a recommendation to the Czech policymakers to start with a "simple" standard sandbox while considering data-sharing when feasible.[35]

However, the OECD report does not reflect nor analyze the applicable Czech legal framework, which is the fundamental problem of any such report. While the report mentions some Czech statutory laws (such as Act No. 370/2017 Sb., on Payments, Act No. 21/1992 Sb., on Banks, etc.), their analysis is lacking. Without further analysis, the OECD concluded that *"the proposed regulatory sandbox design could be launched within the framework of the current legislative framework"*, which is a meaningless statement unless the legal order has been analyzed. When it comes to legal considerations, the OECD simply suggests a proportional application of regulatory and supervisory requirements, as embedded in EU regulation. Such conclusions seem to be a crucial weakness of the report. In the same subparagraph, the OECD stated that: *"implications of the local legal framework of the Czech Republic (e.g., administrative law provisions and implications of public law for the implementation) are not being analyzed in this report. Such legal advice can be obtained by the Czech Authorities from competent parties should they require such an assessment"*. Thus, the OECD report must only be considered as the summary of mainstreamed EU solutions without a necessary compliance check with the Czech legal system and without analyzing or even mentioning all the European initiatives and solutions.[36]

Given the above-described shortcomings and absence of analysis of the Czech legal order, no hard conclusions for the design of the regulatory sandbox in the Czech Republic can be drawn from the OECD report since this OECD report did not even deal with the Czech Republic and its legal system.

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[35] Ibid.
[36] Ibid.

5. POLICY OPTIONS FOR CONSIDERATION

When designing the regulatory sandbox in the Czech Republic, policy-makers have a number of options to choose from in order to determine the shape of the Czech sandbox. Although various approaches can be observed in different countries, some of which appear to be currently prevalent across jurisdictions, it is inappropriate to label one approach as wrong without further analysis and context. This chapter addresses four basic layers in sandbox design: (1) the scope, (2) the sandbox operator, (3) the eligibility of participants, and (4) selected sandbox components.[37]

5.1 SCOPE

The first policy option is the consideration of scope. As mentioned in the introduction of the paper, the origins of the sandbox lie in finance. The sandbox as a policy tool was created in the financial markets, but its lifespan is not necessarily limited to them. Efforts to promote technological innovation while providing safeguards for associated risks can be transferred to other areas of the economy. In general, we may differentiate (i) the sector-specific sandbox and (ii) the cross-sectoral sandbox. An example of a sector-specific solution is a FinTech sandbox, while a cross-sector sandbox is a digital sandbox encompassing digital solutions not only in financial markets.

5.2 SANDBOX OPERATOR

Second, the crucial role in the entire ecosystem is held by the "sandbox operator," which can be a private entity or public authority and/or government agency that is designated to oversee and operate the regulatory sandbox. Initially, a distinction can be made between a private entity and a public entity. In the case of a public entity, three categories can be further distinguished. (1) The sandbox is operated by the regulator, i.e., the entity that creates rules for the regulated market, typically a ministry or the government. (2) The sandbox is operated by a supervisor, i.e., an entity that is empowered by law to supervise selected entities. In case of the financial market, this could be the financial markets supervisor or the central bank. (3) The sandbox may also be operated by another government entity that is neither a regulator nor a supervisor, typically a government agency. The entities listed above can also be combined with each other, such as a regulator together with a supervisor (a ministry together with a central bank), a regulator and a government agency (a ministry together with a government agency). The most common practice in advanced economies is to designate a financial market supervisor (Denmark or Canada), a central bank exercising supervisory powers (Slovakia or Singapore), or the ministry (Norway). A designation of multiple supervisory authorities can be found, for example, in the Netherlands.

[37] BROMBERG, L. – GODWIN, A. – RAMSAY, I. Fintech Sandboxes: Achieving a Balance Between Regulation and Innovation. *Journal of Banking and Finance Law and Practice*. 2017, Vol. 28, No. 4, pp. 314–336.

Shared competence between a supervisory authority and another state entity (government agency) can be found in Switzerland or Japan. Poland has adopted a path of a sandbox operated by the Ministry of Finance and the financial supervisory authority (the Polish Central Bank is separated from the financial market supervisor). More than two institutions are operating the Italian sandbox - together with the central bank, it is the Ministry of Finance and the supervisory authorities for securities and insurance products.[38]

5.3 ELIGIBLE PARTICIPANTS

The third parameter is the eligibility of the subjects that can participate in the sandbox. The access can be limited to Small and Medium-sized Enterprises (SMEs), or the eligibility of participants can be based on their will to test a new technology, regardless of the size of the company. In the case of eligibility checks, either a restrictive approach or a flexible approach could be adopted. To ensure flexibility, the competent authority may be given discretionary powers in assessing eligibility. By definition, in the case of a sectoral sandbox, participants are limited only to entities from the specific sector.[39]

5.4 COMPONENTS

The fourth parameter represents the components of the sandboxes. In other words, the design of the project itself. The components can be, in theory, broken down on a scale from minimalist version to maximalist version. The minimalist components of a regulatory sandbox would typically include meetings between participants and representatives of supervisors and regulators or public seminars and training. As a next layer, an accessible testing environment for innovations or public support of the scientific environment is often included in the regulatory sandbox. A program of public support and subsidies for private entities that are developing high-potential innovations can be seen as a maximalist version.[40]

Regulatory or legislative solutions will depend on the selected policy options. The final design of the sandbox will always reflect the specificities of a given country, its approach to innovations, and the policy decisions of relevant institutions. Given that the Czech Republic is not catching up with many countries that have adopted a framework for regulators sandbox during 2016–2023, it is advisable to accelerate work on the Czech sandbox. Of the options offered, the concept of a wide scope is recommended, i.e., to include not only innovations in the financial market but also to prepare the framework for other future innovations. The designation of an entity to operate a sandbox is at the full discretion of policymakers. Among public institutions in the Czech Republic, the following should be considered: Czech National Bank, Ministry of Finance,

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39 FinTech Action plan…

40 Czech Fintech Association. *Sandbox v ČR: Česká fintechová asociace – presentace* [Sandbox in the Czech Republic: the Czech Fintech Association – presentation]. 2023.

or government agencies such as CzechInvest (Business and Investment Development Agency). On the issue of eligibility, one can agree with the OECD recommendation and favor the flexible approach, not excluding possible innovators. In terms of the components, policy makers may choose between a wide range of options, such as regular consultations between market players and regulators, involvement of relevant academic institutions, cooperation with the scientific community, creation of technical solutions for the testing environment, etc.[41]

6. CONCLUSION

This paper has delved into financial innovations and the regulatory sandbox, focusing on the policy debate over the establishment of the sandbox in the Czech Republic. Financial innovation, such as new financial products, digital tools, process optimization, and emerging business models, particularly in FinTech, has been a driver for market efficiency. With regard to risks accompanied by financial innovations, the regulatory sandbox was designed as a tool to allow and promote the emergence of innovations while ensuring safeguards for market participants and market integrity. The empirical evidence shows a positive effect of financial innovations on economic growth. Regulatory sandboxes have been adopted into national laws by various countries since 2016.

This paper scrutinizes the absence of sandbox legislation in the Czech Republic, despite favorable conditions for financial innovation, and contemplates potential policy options. The paper showed that prerequisites for the Czech Republic in the area of online banking and digital innovations seem to be rather favorable, but there exist numerous options that need to be carefully considered while preparing a sandbox in the Czech Republic. Such analysis should have been included in the OECD report titled *"Supporting FinTech Innovation in the Czech Republic: Regulatory Sandbox Design Considerations"*[42] which, besides other serious shortcomings, does not analyze the relevant Czech laws. Therefore, the results and recommendations of the OECD report has limited relevance.

Considering the dynamics of the Czech financial landscape, this paper brings recommendations based on policy options. Authors are advocating for a broad scope that transcends FinTech to encompass various sectors, the choice of a sandbox operator, eligibility criteria for sandbox participants, and components that must align with the specificities of the Czech Republic and rely on policymakers' decisions. The authors suggest adopting a legal definition of a regulatory sandbox in the Czech Republic. If one fact is to be derived from the paper, then the Czech Republic should adopt

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[41] Country Report-Czechia Accompanying the document Recommendation for a COUNCIL RECOMMENDATION on the 2022 National Reform Programme of Czechia and delivering a Council opinion on the 2022 Convergence Programme of Czechia. In: *EUR-Lex: Access to European Union law* [online]. 23. 5. 2022 [cit. 2024-02-26]. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A52022SC0605.

[42] Supporting FinTech Innovation in the Czech Republic…

a regulator sandbox to catch up with its counterparts that have already embraced regulatory sandboxes.

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SETTING UP THE LEGISLATIVE FRAMEWORK FOR THE INTRODUCTION OF A REGULATORY SANDBOX: THE CZECH PERSPECTIVE[1]

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Abstract: This paper delves into the intricate intersection of the phenomenon of regulatory sandboxes and public law and focuses on the issue of legislative empowerment for the establishment of a regulatory sandbox. Based on the example of the Czech Republic, which lacks a fully operational regulatory sandbox, the study investigates the legislative prerequisites for initiating such a framework. Using the qualitative doctrinal research, the authors examine diverse conceptual frameworks, aiming to identify the optimal legislative approach for implementing and sustaining a regulatory sandbox. Notably, the study scrutinizes the viability of constructing a regulatory sandbox under general administrative empowerment clauses within the Czech legal context, considering the principles of legality and *intra vires* doctrine inherent in continental administrative law. The research contributes insights to the ongoing discourse on regulatory sandboxes, providing a nuanced understanding of the legislative prerequisites for their operation, with a focus on the specific challenges and opportunities within the Czech regulatory landscape.

Keywords: regulatory sandboxes; experimental lawmaking; legislative requirements; empowerment provisions; enabling clauses; statutory mandate; financial law; energy law; fintech; Innovation

DOI: 10.14712/23366478.2024.21

INTRODUCTION

There is, most certainly, more than just one way to define a regulatory sandbox. As a matter of example, the Council of the European Union defines regulatory sandboxes as concrete frameworks which, by providing a structured context for

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme. This particular article being a follow-up to the authors' presentation at the roundtable "Lectures in modern administrative law: Experiments in administration and the administration of experiments" held on 13 October 2023 in Prague. Both authors are extremely grateful to Prof. Jakub Handrlica for his support and patient guidance throughout the project.

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experimentation, enable where appropriate in a real-world environment the testing of innovative technologies, products, services or approaches for a limited time and in a limited part of a sector or area under regulatory supervision ensuring that appropriate safeguards are in place.[4] In other words, regulatory sandboxes serve the purpose of helping both the regulators and the participants to learn about the opportunities and risks that a particular innovation carries, and to subsequently develop the right regulatory environment to accommodate it.[5] When pondering about the status of regulatory sandboxing in public law (or any other area of law, for that matter), it is rather hard to overlook the fact that sandboxes lie as much outside the realm of jurisprudence and law in its formal sense as they do inside those disciplines.

Having said that, it is safe to state that regulatory sandboxes are in many aspects inclined to become more of a technical solution than a legal (or legislative) one,[6] with the core of their nature hiding in administrative practices rather than laws. On the other hand, however, it is clear that the establishment and proper functioning of a regulatory sandbox requires legislation allowing the purpose of a sandbox to be fulfilled. When it comes to technical implementation of a regulatory sandbox, several noteworthy manual-like publications have been written,[7] meanwhile the preparatory phase of such implementation devoted to the creation of an opt legislative environment still remains somewhat concealed behind the veil of mystery.[8]

While the Czech Republic does not have a fully operating regulatory sandbox, making it *prima facie* seem as though it has little to contribute to the debate concerning sandboxing, this state of affairs provides us with solid ground for raising a highly relevant question regarding the legislative prerequisites for the introduction of a regulatory sandbox. Would it be possible to establish a regulatory sandbox under the current legislative conditions, should some Czech regulator decide to do so? And in case of a negative answer to the prior question, what legislative solutions could be exploited to compensate for the shortcomings of the present legal framework? Following those questions, this article pursues the objective of (i) ascertaining whether the current legislation

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4 Regulatory sandboxes and experimentation clauses as tools for better regulation: Council adopts conclusions. In: *European Council: Council of the European Union: Press release* [online]. 16. 11. 2020 [cit. 2024-02-24]. Available at: https://www.consilium.europa.eu/en/press/press-releases/2020/11/16/regulatory-sandboxes-and-experimentation-clauses-as-tools-for-better-regulation-council-adopts-conclusions/.

5 See Federal Ministry for Economic Affairs and Climate Action of the Federative Republic of Germany. Regulatory Sandboxes: Testing Environments for Innovation and Regulation. In: *Bundesministerium für Wirtschaft und Klimaschutz* [online]. September 2022 [cit. 2024-02-24]. Available at: https://www.bmwk.de/Redaktion/EN/Dossier/regulatory-sandboxes.html.

6 To gain a more high-level understanding of the referred to principles under which regulatory sandboxes operate, see e.g., ALLEN, H. J. Regulatory sandboxes. *George Washington Law Review*. 2019, Vol. 87, No. 3, pp. 579–645; or LIM, B. – LOW, CH. Regulatory sandboxes. In: MADIR, J. (ed.). *FinTech. Law and Regulation*. 2nd ed. Cheltenham: Edward Elgar, 2021, pp. 340–364.

7 See e.g., JENÍK, I. – DUFF, S. *How to build a regulatory sandbox: a Practical Guide for Policy Makers*. Washington DC: CGAP, 2020.

8 Prior to exploring this specific topic in greater detail, the authors undertook a scientometrical assessment of the four core databases in the field of legal science, namely Scopus, Web of Science, JSTOR, and Hein Online. Based on the search and analysis of relevant sources covering the topic of regulatory sandboxes, the authors identified a research gap in the existing literature with regard to the question of legislative framework for the establishment of a regulatory sandbox. For the reasons specified afore, the authors then decided to base their research on the example of the Czech public law regulation.

in the Czech Republic provides a sufficient basis for the establishment of a regulatory sandbox, and (ii) indicating, from a high-level perspective, possible approaches to framework regulation of sandboxing.

For the sake of meeting the objective outlined afore, the authors exploited the following methodology. Firstly, the authors establish the general conditions that must be met in order for the action of the administrative authority to be considered *intra vires*. With those conditions kept firmly in mind, the authors then explore the relevant legislation, identify the applicable empowerment clauses contained in that legislation, and subject those clauses to analysis in order to establish their material scope. The analysis *per se* is undertaken predominantly via systematic research and through the available literature and case law. Hence, using the Czech legislation as an example, the authors determine whether a regulatory sandbox can be legally built upon general administrative empowerment clauses (also referred to as delegation clauses, enabling clauses or statutory mandates), especially in light of the principle of legality and the *intra vires* doctrine traditionally abided and adhered to in the continental administrative law. Secondly, the authors identify possible models of creating a legislative basis for regulatory sandboxes by analysing the specifics of this phenomenon. The authors explore various conceptual setups, ascertaining the optimal legislative solution for the introduction and operation of a regulatory sandbox. Provided that this topic has not been sufficiently explored in the existing literature and due to the fact that this article does not, by any means, aim to provide comprehensive and detailed overview of all legislative approaches, the authors take the liberty of making their suggestion using partial comparative research and doctrinal analysis.

INTRA VIRES AND ULTRA VIRES ACTIONS OF ADMINISTRATIVE AUTHORITIES

Prior to dwelling upon the issue of regulatory sandboxes *per se*, it is necessary to first expose the context associated with the so-called empowerment clauses, and to elucidate their connection to the establishment of a sandbox. In general terms, the administrative law doctrine operates with the principle of legality implying that administrative authorities ought to only exercise the powers bestowed upon them for the purposes foreseen by the law and only to the extent absolutely necessary to achieve the desired outcome.[9] In Czech legal theory, this principle is even sometimes referred to as the enumerability of public law titles, meaning that the authority of a state body to act in a certain way needs to be explicitly stipulated by law.[10] In the context of regulatory

[9] VOPÁLKA, V. – PRÁŠKOVÁ, H. Základní zásady činnosti správních orgánů [Basic principles of the administrative authorities]. In: HENDRYCH, D. et al. *Správní právo: obecná část* [Administrative Law: General Part]. 9th ed. Prague: C. H. Beck, 2016, p. 253.

[10] See also the Resolution of the Constitutional Court of the Czech Republic of 7 September 2010, File No. Pl. ÚS 4/10. The enumerability of public law titles represents the exact opposite of the principle of individual freedom which implies that an individual may act in any way that is not explicitly forbidden by law. Whilst the principle of freedom can be simplified to "what is not forbidden is permitted", the principle of legality would be "what is not permitted is forbidden".

sandboxes this principle manifests itself in the need of a provision allowing the regulator (be it any administrative authority regardless of its specific status) to create and operate such sandbox. This, of course, is said without any prejudice to the fact that the proper operation of a sandbox will in many cases require an exception from the normal regime for the participants in such sandbox.[11]

The aforementioned principle can be extended to the question of regulatory sandboxing by raising a question whether the creation of a sandbox is an action that can be considered *intra vires* with regard to a specific regulator (i.e., the scope of the authority entrusted to the regulator is wide enough to cover the creation and operation of a regulatory sandbox), or whether such action would overstep the delegated authority, thus making the establishment of a regulatory sandbox *ultra vires*. It must be mentioned, however, that the scope of powers entrusted to a certain administrative authority is usually not obvious from the wording of the law since the empowerment clauses tend to be rather general and vague. Contrary to the ideas described in the legal theory, in practice such provisions are typically not enumerative and do not contain an exhaustive list of narrowly defined powers, thus creating room for (extensive) interpretation. It is commonly known that regulators in many cases engage in activities that are not explicitly stipulated, which nonetheless evokes questions regarding the legality of such conduct.[12]

Provided that empowerment clauses are in many cases vague, it is necessary to make them subject to legal interpretation in order to establish their applicational scope. The approach towards the interpretation depends upon the nature of the individual clause, meaning that different tests can be applied in relation to different clauses (e.g., clauses enabling a certain authority to issue an implementing subordinate legal act, as opposed to clauses enabling to exercise the delegated authority in individual cases by means of administrative activity).[13] For instance, when it comes to empowerment to issue a legislative act (i.e., a legal regulation, for these purposes regardless of its specific hierarchical status), the general principle promoted *inter alia* by the Czech Constitutional Court demands that the empowerment be *"so precise and specific as to their scope, content and purpose that a ministry or other administrative body is not able to deviate from the legal limits and thus exercise its own (political) will"*.[14]

While the cited decision is *stricto sensu* (obviously) linked to lawmaking, a more general interpretational principle that can be derived from this theory. Firstly, as is quite aptly pointed out by the authors of the handbook "Legislative Procedure", the scope of an empowerment clause cannot be ascertained from its text alone, but should instead be

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[11] See e.g., KNIGHT, B. – MITCHELL, T. *The Sandbox Paradox*. CSAS Working Paper 19–36. George Mason University, Antonin Scalia Law School, 2019, pp. 9–10.

[12] See also VOJTĚCH, J. Několik poznámek k doporučením ČNB úvěrovým institucím v oblasti hypotečního trhu a jejich právní povaze [Some comments on the CNB's recommendations to lending institutions in the mortgage market and their legal nature]. *Obchodněprávní revue* [Business Law Review]. 2017, Vol. 9, No. 4, pp. 104–107.

[13] Clauses empowering to issue legislation have repeatedly been subject to constitutional review, see e.g., the Decision of the Constitutional Court of the Czech Republic of 21 June 2000, case No. Pl. ÚS 3/2000; or decisions case No. Pl. ÚS 7/03 or Pl. ÚS 43/13.

[14] See the Decision of the Constitutional Court of the Czech Republic of 9 February 2010, case No. Pl. ÚS 6/07.

derived from its context and the content of the law as a whole.[15] Hence, while it is necessary to first carefully examine the language used in the clause and look for statements that explicitly grant authority or powers to the designated entity, it is then appropriate to go beyond the grammatical interpretation and explore the broader statutory or legal framework in which the empowerment clause is situated, i.e., analyse how the clause aligns with other relevant provisions and whether there are any conflicts or inconsistencies.[16] Further, the legislative intent and purpose behind the delegation can provide valuable context. Secondly, it is also vital to examine the overall purpose and objectives of the law containing the empowerment clause, since understanding the goals intended to be achieved by the delegation can shed light on the intended interpretation of the clause. In other words, the power delegated to the authority should directly contribute to the fulfilment of its purpose.

In many cases, the wording of the law is quite straightforward and is thus more than sufficient to determine the scope of the empowerment. That is mostly the case with the laws where the legislative technique used by the lawmaker operates with a number of micro-delegations placed in different parts of the law and connected with other relevant provisions. From the viewpoint of the *intra vires* doctrine, this legislative approach is more restrained and provides little to no room for extensive interpretation. However, the scope of powers delegated to a certain authority can also be expressed very broadly, following the high-level objectives of such authority.[17] In these cases, blindly following the principles outlined above could lead to some sort of a "the end justifies the means" approach (for the lack of a better idiom), as it would be possible to justify a very wide variety of actions as long as such actions contribute, in one way or another, to achieving of the goals outlined by the law. It comes as no surprise that the current approach to the interpretation of vague provisions is quite the opposite, with the Czech Constitutional Court repeatedly calling for restrictive interpretation of empowerment clauses.[18] In the context of regulatory sandboxing this reserved approach could be applied in a manner implying that unless the establishment and operation of a regulatory sandbox is absolutely necessary to achieve the objectives set for the regulator.

In order to determine the possibility of the introduction of a sandbox in the Czech Republic, it is hence necessary to explore the scope of the empowerment clauses contained in the currently applicable laws. For the purposes of this analysis, two laws

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[15] See VOPÁLKA, V. – MLSNA, P. Zákonné zmocnění [Statutory mandate]. In: BOHÁČ, R. et al. *Legislativní proces: teorie a praxe* [Legislative process: theory and practice]. Prague: Ministry of Interior of the Czech Republic, 2011, p. 120.

[16] The authors of Legislative Procedure most probably refer to systematic interpretation in its traditional sense, see e.g., PADJEN, I. L. Systematic Interpretation and the Re-systematization of Law: the Problem, Co-requisites, a Solution, Use. *International Journal for the Semiotics of Law*. 2020, Vol. 33, pp. 192–194.

[17] In some cases, the lawmakers also use the combination of both approaches, with a relatively broad general clause outlining the core competence of the authority, and a series of partial empowerment clauses delegating concrete powers. In such case, it is not also entirely clear how the relationship between those two types of clauses should be interpreted and whether the general empowerment clause can extend the scope of partial clauses, i.e., go beyond micro-delegations and allow the regulator to also act in cases not explicitly foreseen by law.

[18] Beyond the already mentioned, see also the Decision of the Constitutional Court of the Czech Republic of 9 February 2016, case No. Pl. ÚS 17/15.

(applicable to two corresponding regulators) were selected based upon their relevance to the issue of regulatory sandboxing. Since the first formalised attempt to create a regulatory sandbox was undertaken in the area of energy law, this sector was chosen as the first subject of scrutiny. The second selected area is, quite unsurprisingly, the area of banking and financial law, where the authority of the Czech National Bank will be ascertained.

LEGAL FRAMEWORK IN THE CZECH ENERGY LAW

The energy law regulation in the Czech Republic generally focuses on maintaining a stable and secure energy infrastructure, whereas its main objectives are ensuring the reliability of energy sources, protecting consumers, and preventing disruptions to the supply chain. It is one of the sectors in which the pursuit of stability and safety often takes precedence over fostering an environment conducive to experimentation. Also, within the Czech energy market, the participants operate within a highly regulated framework, primarily governed by the Act No. 458/2000 Sb., on business conditions and the exercise of state administration in the energy sectors and on amendments to certain acts (*Energy Act*) and related subordinate legislation.

The elemental provisions of the Energy Act define the energy sectors regulated by the Energy Act, which are the electricity, gas, and heating industries. Further, the Energy Act regulates the exercise of state administration in energy sectors, the rights and obligations of persons related thereto, and it lists the activities that constitute entrepreneurship in these sectors.[19] The key aspects of the energy sector's legal regulation are permitting, licensing and price regulation.[20]

To legally commence business in the latter activities, the participants must go through a comprehensive licensing process to obtain a relevant license. The licensing process serves as a regulatory mechanism to ensure that participants adhere to predetermined standards, safety protocols, and compliance measures. Price regulation, on the other hand, is directed at entities operating in part of the energy sector where, for various reasons, no effective competition exists. It prevents these entities from charging excessive and socially inappropriate prices, but at the same time, it shall ensure the effective operation of these participants. When carrying out business activities in the energy sector, the entrepreneur must always comply with all the obligations stipulated by the Energy Act. This does not only establish a legal framework for accountability, but it also aims to uphold the reliability and security of the energy infrastructure. Non-compliance with the obligation to obtain the prescribed license or failure to comply with the obligations set out in the Energy Act for the license holder carry significant legal consequences. As a result of such a breach, the entrepreneur faces the risk of penalties and possibly revocation of the license that it holds under the Energy Act. In this way, the regulation of

[19] These are the production of electricity, the transmission of electricity, the distribution of electricity and trade in electricity, market operator activities, the production of gas, transportation of gas, distribution of gas, storage of gas and trade in gas, production of thermal energy, and distribution of thermal energy and intermediary activities.

[20] Energy Act, Section 17.

permitting and licensing serves as a barrier to market entry, and price regulation serves as an instrument to regulate the consequences of these barriers.

Within the Czech technological market, innovation within the energy sector is supported by different programs, for example, the Programme to Support Applied Research, Experimental Development and Innovation THÉTA.[21] It is also acknowledged that legal frameworks that enable testing and demonstration projects are a vital way for innovators to demonstrate the viability and safety of their technologies before widespread deployment. For this purpose, the regulatory sandboxes can emphasize areas where regulation needs to change and recognize gaps where new regulation is required.[22]

As for the empowerment provisions, the Energy Act contains both the general establishment and delegation clause (stipulating that the Energy Regulatory Authority is a regulatory authority in the field of energy),[23] as well as a number of partial imperative and empowerment clauses providing relatively concrete and detailed actions that ought to be undertaken by the regulator. While the presence of micro-delegations *per se* does not necessarily imply that such an empowerment clause would be required for each minor activity that ought to be undertaken by the Energy Regulatory Authority, in this particular case it is rather clear that establishment of a regulatory sandbox falls outside of the scope of authority foreseen by the legislature. Given the manner in which the Energy Act enlists various powers and duties of the Energy Regulatory Authority, the empowerment to launch a regulatory sandbox could hardly be derived from the general clauses via interpretation. The systematics of the law suggests that the lawmaker would most probably specify such power, had they decided to allow such action, while the opposite interpretation (i.e., derivation of such power from the general clauses whilst at the same time the specification of other powers is substantially more detailed) would go against the spirit of the law. The fact that the legislature would go with explicit empowerment, should they decide to allow for a sandbox to be launches, also follows from the fact that such proposal was in fact on the table (see further).

Since the Energy Act does not contain any provision allowing exemption from the imposed obligation, nor does it allow the government or the Energy Regulatory Authority to grant the exemption, the authors argue that the current wording of the law does not allow for a regulatory sandbox to be launched, not even by means of extensive interpretation. There are, however, countries such as Great Britain or the Netherlands in which granting a new mandate to the national regulator is not required in order for them to create a sandbox, and thus, new legislation does not have to be adopted for this purpose.[24] However,

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[21] See Inovace – výzva I. OP TAK [Innovation – Call I. OP TAK]. In: *Ministry of Industry and Trade* [online]. 15. 8. 2022 [cit. 2023-12-27]. Available at: https://www.mpo.cz/cz/podnikani/dotace-a-podpora-podnikani/inovace-_-vyzva-i--op-tak--269229/.

[22] Energy Transition Expertise Centre. Study on Regulatory Sandboxes in the Energy Sector: Final Report [online]. Publications Office of the European Union, 2023 [cit. 2023-12-25]. Available at: https://op.europa.eu/en/publication-detail/-/publication/86c18e4c-1ecb-11ee-806b-01aa75ed71a1/language-en?WT_mc_id=Searchresult&amp%3BWT_ria_c=37085&amp%3BWT_ria_f=3608&amp%3BWT_ria_ev=search&amp%3BWT_URL=https%3A//energy.ec.europa.eu/.

[23] See Sec. 17 para 1 of the Energy Act.

[24] Council of Europen Energy Regulators. CEER Paper on Regulatory Sandboxes in Incentive Regulation: Distribution Systems Group [online]. 25. 5. 2022 [cit. 2023-12-23]. Available at: https://www.ceer.eu/documents/104400/-/-/72eab87d-9220-e227-1d26-557a63409c6b.

this is not the case in the Czech Republic where, without the creation of a new mandate to derogate from specific provisions, the regulator or other authorities in the Czech Republic are not allowed to do that, and consequently also, the participants in the energy market cannot deviate from the established legal rules.

It is to be noted that the Energy Act also defines activities that fulfil the definition of business in the energy sector, but for some reason, a license for them is not required (in particular with regard to the range of activities carried out). These cannot be viewed as exemptions from the current legal framework in the sense of regulatory sandboxes or encouragement to innovate. The exclusion of these activities from the requirement to hold a license under the Energy Act is resulting, for example, from the fact that these activities do not affect the existing network on a larger scale or it was made as a political decision, as in the case of the use of electricity in the operation of a charging station pursuant to Act No. 311/2006 Sb., on fuels and fuel filling stations and amendments to certain related acts (the Fuels Act).[25] As exemptions are not allowed, all new technologies requiring the change of existing rules can be used in daily operations only after the relevant legal regulations are changed to allow them.

As regard to the exemption from the current regulatory requirements, the first attempt to include such a provision in the Energy Act was made by the Ministry of Industry and Trade in February of 2023.[26] This amendment proposal included provisions regulating so-called *"pilot projects"*. According to the amendment proposal, the approval to run the pilot project was supposed to be granted by the Energy Regulatory Authority upon the evaluation of the application, whereas the applicant was supposed to provide, among others, information on the conditions for the operation of the pilot project, including the scope of exemptions from statutory obligations.[27] As the provision did not set limits for the subject or scope of the pilot projects, the final decision was supposed to be left to the Energy Regulatory Authority as the national regulator. The possibility of carrying out a pilot project would be open only to holders of the license granted under the Energy Act upon prior approval of the Energy Regulatory Office granted on a case-to-case basis.

Despite the global trend of embracing regulatory sandboxes as catalysts for innovation, in June of 2023, the government decided to remove the provision on the regulatory sandboxes from the draft amendment to the Energy Act without any sound explanation.[28] Thus, for now, it is unclear whether the wording of the provision will be followed in the future and whether the adoption of this provision can be expected or if it was judged by the government to be unacceptable.

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[25] MED, J. Podnikání v energetických odvětvích [Business in the energy sectors]. In: ZDVIHAL, Z. – SVĚRÁKOVÁ, J. – MED, J. – OSADSKÁ, J. et al. *Energetický zákon* [Energy Act]. Prague: C. H. Beck, 2020, p. 130.

[26] See Sec. 21 et seq. of the Draft Act amending the Act No. 458/2000 Sb., on business conditions and the exercise of state administration in the energy sectors and on amendments to certain acts (Energy Act), as amended, and Act No. 406/2000 Sb., on energy management, as amended, file No. MPO 98819/22/41100/01000, version as of 27 February 2023.

[27] Ibid.

[28] See Reviewed Draft Act amending the Act No. 458/2000 Sb., on business conditions and the exercise of state administration in the energy sectors and on amendments to certain acts (Energy Act), as amended, and Act No. 406/2000 Sb., on energy management, as amended, file No. MPO 98819/22/41100/01000, version as of 14 June 2023 et seq. versions.

The advantage of the proposed provision was the fact that it was not limited to concrete technology, and thus, its application would be widespread regardless of future development, which could cause concrete provisions focusing on a specific technology to become redundant. The actual impact of the regulatory sandboxes would be for the innovators to examine the new technologies faster and do more proper examination before their widespread use. Secondly, it could speed up the legislative process as the public authorities would be familiar with the new technology and at the time the legislative process is running, the technology would be already tested.

When it comes to the necessity of a special empowerment clause allowing the Energy Regulatory Authority (or the Czech government) to deviate from the standard legal regime, the fact that such a solution was on the table probably speaks for itself. Would it not be imperative to adopt an amendment to the Energy Act, the only explanation for such step would be that the amendment is of a purely legislatively-technical nature,[29] which however would have been stated in the explanatory memorandum. At the same time, the current wording of the empowering provisions does not leave any room for an interpretation allowing the establishment of a regulatory sandbox.

LEGAL FRAMEWORK IN THE CZECH FINANCIAL LAW

The authority to carry out regulatory supervision *vis-à-vis* the financial sector in the Czech Republic is granted to the Czech National Bank.[30] In comparison with the Energy Regulatory Authority, the Czech National Bank has a special law governing its operation, which describes the main responsibility of the regulator as ensuring the price stability.[31] This constitutes a kind of a first layer of delegation contained in the law. The second layer specifies the individual instruments that the Czech National Bank ought to use to fulfil its duties, such as determination and implementation of monetary policy, regulation of the circulation of money, the payment system and the settlement of bank accounts, or the issuance of banknotes and coins.[32] This clause also contains the provision empowering the Czech National Bank to *"supervise the actors on the financial market"* (within the meaning of Section 44 (1) of the Czech National Bank Act).[33] Finally, the third lawyer consists of a number of micro-delegation clauses, similar in their nature to those contained in the Energy Act.

While in case of the Energy Act the need for explicit delegation via a special clause was rather straightforward (especially considering the fact that there was a legislative attempt to adopt such a clause), the system of empowerment clauses contained in the Czech National Bank Act appears to provide more flexibility. It must be noted that in case of the Czech National Bank Act, the relationship between different layers of

[29] For example, such amendment is imaginable in cases when the previous wording of the law was not clear enough and gave ground for uncertainty about its meaning. A new wording could be thus adopted for the sake of clarification of an already existing regulation.

[30] See Sec. 1(1) of the Act No. 6/1993 Sb., on the Czech National Bank (Czech National Bank Act).

[31] Sec. 2(1) of the Czech National Bank Act.

[32] See Sec. 2(2) ibid.

[33] See Sec. 2(2)(d) ibid.

clauses is clearer, as the first layer is directly expanded and specified by the second layer, while the second layer provides for a residual category of empowerment clauses.[34] This assumption is also supported by the fact that the Czech National Bank is demonstrably engaging in activities that are not explicitly foreseen by the law, such as issuing of supervisory benchmarks and providing official legal opinions on various matters.[35] Despite the fact that presented activities are indeed carried out outside the scope of the legislative regime, this example might not be helpful in relation to regulatory sandboxes, since one of the main characteristics of the said activities is that none of those documents are legally binding. At the same time, those documents must comply with the law and abide its boundaries, since there is no legislative exception granted.

Following the aforementioned, it is necessary to distinguish two situations. When no exception from the legislative regime is needed and all activities are exercised within the boundaries of the existing law, it is imaginable that such setup could be implemented based on the existing empowerment clauses. However, when it is necessary to grant an exception from legal regulations, such exception cannot be granted without explicit delegation of such authority. In this regard, the authors of the Legislative Procedure point out that, *"in very exceptional cases, it is permissible for legislation at the statutory level to empower an authority to grant exemptions from the law. Any exemptions from the law for specific recipients are undesirable, so such provisions should be kept to an absolute minimum in legislation and their existence should be duly justified"*.[36] Hence, while it could be technically possible for the Czech National Bank to establish a regulatory sandbox via the extensive interpretation of the empowerment provisions of the Czech National Bank Act, such sandbox would fail to provide its participants with any sort of regulatory reliefs since the regulator is not empowered to grand any exceptions from the law.

Since the Czech legal system does not provide the explicit legal basis for the existence of a regulatory sandbox in the financial market, although the establishment of a regulatory sandbox could be beneficial for the Czech FinTech environment as it could, for example, allow new market players access the existing market, it is currently impossible to establish a fully functioning FinTech sandbox, even if the Czech National Bank decided to do so. This, after all, could also be one of the reasons why the actors currently operating in the Czech financial market are mainly banks and other traditional institutions. The main reason these are the main providers of financial services in the Czech Republic is the licensing procedure, which, due to its length and complexity, becomes impassable for multiple applicants which could have an adverse effect on competition.

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[34] See Sec. 2(2)(f) of the Czech National Bank Act stipulates that the regulator shall "*carry out further activities under this Act and under other legislation*".

[35] See Dohledová úřední sdělení a benchmarky [Supervisory Statements and Benchmarks]. In: *Czech National Bank* [online]. [cit. 2024-01-28]. Available at: https://www.cnb.cz/cs/dohled-financni-trh/vykon-dohledu/dohledova-uredni-sdeleni-a-benchmarky/.

[36] See BOHÁČ, R. – KOHAJDA, M. Zmocnění k povolování výjimek ze zákona [Empowerment to grant exemptions from the law]. In: BOHÁČ, R. et al. *Legislativní proces: teorie a praxe* [Legislative process: theory and practice]. Prague: Ministry of Interior of the Czech Republic, 2011, p. 369.

In general, the process of obtaining a license from the Czech National Bank begins with the preparatory stage, during which the applicant must prepare documents and an application for submission to the Czech National Bank. The preparation phase is followed by the administrative licensing phase, during which the Czech National Bank assesses the application.[37] Therefore, the applicant has to prove their preparedness with respect to financial, technical, IT, and personnel matters. The applicant's preparation for the administrative process must be thorough, as the fulfilment of all stipulated requirements has to be proven to the Czech National Bank via the documentation provided in the administrative procedure. The requirements for obtaining individual licenses and procedural details can slightly differ for individual services as individual types of financial services (e.g., banking services, securities dealers, insurance companies, investment companies, payment institutions, Investment companies, or investment funds) are regulated separately by individual sectoral acts and require different licenses.[38]

In the application process, there is no space for exemption from current legal regulations. On the contrary, obtaining a license is a very rigorous process in which all legal conditions must be met. To some extent, the Czech National Bank may exercise administrative discretion[39] or attach restrictions or conditions to the license granted. For example, the Banking Act specifies that a banking license, *"shall contain a nominal definition of the authorized activity and may contain a definition of the scope of the authorized activity, but not in the sense of limiting the number of individual business cases, and may also contain a statement of the conditions which a bank or a branch of a non-Member State bank must comply with before commencing any authorized activity or comply with in carrying on any authorized activity"*,[40] whereas including conditions or restrictions to the license is according to the Court of Justice of the EU in line with European law.[41] These instruments allow the Czech National Bank a certain degree of administrative discretion, but they do not constitute regulatory sandboxes.

Further, as the financial environment constantly evolves, the requirements for participation in the financial market are constantly changing, creating some uncertainty for license applicants. The Czech National Bank frequently returns applications for revision due to insufficient documentation, which lengthens the process considerably. The licensing process is thus never-ending, requiring refinement of requirements and active communication directly with the regulator. For this reason, the process of obtaining a license in the Czech Republic can be considered by the applicants rigorously and

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37 Under the application of the Act No. 500/2004 Sb., Administrative Code and other Acts that apply to the particular activity carried out.

38 For example, Act No. 21/1992 Sb., on Banks, Act No. 277/2009 Sb., on Insurance, Act No. 240/2013 Sb., on Investment Companies and Investment Funds, Act No. 256/2004 Sb., on Capital Market Undertakings.

39 European Banking Authority. *Obecné pokyny k vnitřnímu systému správy a řízení* [General guidelines on the internal governance system] [online]. 21. 3. 2018 [cit. 2023-12-26]. Available at: https://extranet.eba.europa.eu/sites/default/documents/files/documents/10180/2164689/e1d8f4b9-71e5-408f-86bb-ef94da11938a/Guidelines%20on%20Internal%20Governance%20%28EBA-GL-2017-11%29_CS.pdf?retry=1#:~:text=Obecn%C3%A9%20pokyny%20formuluj%C3%AD%20n%C3%A1zor%20org%C3%A1nu,2%20na%C5%99%C3%ADzen%C3%AD%20(EU)%20%C4%8D.

40 Banking Act, Section 1(8).

41 Decision of the Court of Justice of the EU dated 25 June 2015. *CO Sociedad de Gestión y Participación SA and Others v. De Nederlandsche Bank NV and Others*, C-18/14, ECLI:EU:C:2015:419.

unclearly concerning its conditions. This lack of rigidity in the regulator's licensing requirements could be viewed as a complication, which was confirmed by the public consultation held by the Czech National Bank in 2019.

Through this public consultation, the Czech National Bank gained information regarding financial market innovation and consumer protection. The majority of respondents to the public consultation believe that over-regulation of financial services is an obstacle to development and that the current regulation is unnecessarily strict. In this respect, according to the evaluation of the public consultation published by the Ministry of Finance concerning financial market innovation and consumer protection, several respondents repeatedly answered that, in their view, the supervisory authority's reticence to establish a regulatory sandbox or incubator is an obstacle to the development of financial innovation.[42] However, in their view, these could help sped up licensing procedures for financial innovators. Given the fragmented legal framework, if the Czech National Bank would support the idea of introducing regulatory sandboxes into the Czech financial sector, the process of its adoption could be very comprehensive. The Czech legislature would have to decide whether the regulatory sandbox would be open to all financial services and sectors or only some, and in this respect, it would have to adopt a general act that would allow the application of regulatory sandboxes in various application procedures or implement the legal basis of a regulatory sandbox in the invidious sectoral Acts. There would be, of course, other legal ways, for example, a Decree of the Czech National Bank.

However, within the published evaluation of the public consultation, the Czech National Bank explains its disagreement with this statement and emphasizes that the aim of the legislative development should not be to support a certain segment or a certain type of technology but to create an efficient market that will create room directly or indirectly for competition and equal access to market players.[43] In this respect, the Czech National Bank considers support for selected entities in the form of a regulatory sandbox or similar instrument to be contrary to the principles of technological neutrality. Moreover, the Czech National Bank explicitly stated on its website dedicated to innovation that it is not currently planning to establish a regulatory sandbox nor an innovation hub, and without the activity on the side of the Czech National Bank, it is not very probable that the regulatory sandboxes in the FinTech Sector would be assessed by the legislature.[44]

On the other hand, despite the absence of regulatory sandbox regulation, the Czech National Bank took some steps to provide assistance to financial market participants. The Czech National Bank established a FinTech Contact Point, which has been in operation since November 2019. FinTech Contact Point is an innovation facilitator at the Czech National Bank. According to the Czech National Bank statement, *"the FinTech Contact Point aims to promote the introduction of innovative technologies on the Czech financial market through more active communication with incumbent institutions and*

[42] Ministry of Finance. *Vyhodnocení veřejné konzultace: inovace na finančním trhu a ochrana spotřebitele* [Evaluation of the public consultation: financial market innovation and consumer protection] [online]. 19. 5. 2020, p. 3 [cit. 2023-12-25]. Available at: https://www.mfcr.cz/assets/cs/media/Vyhodnoceni_2020-05_Vyhodnoceni-verejne-konzultace-inovace_v02.pdf.

[43] Ibid., p. 3

[44] Financial Innovation. In: *Czech National Bank* [online]. [cit. 2023-12-26]. Available at: https://www.cnb.cz/en/supervision-financial-market/financial-innovation/.

potential new entrants".[45] According to this statement of the Czech National Bank, the aim of the FinTech Contact Point is to respond more flexibly to relevant FinTech-related inquiries. By this means the Czech National Bank shall try to help resolve unclear regulatory issues (for example, regarding licenses or supervision) so as to facilitate compliance with the duties imposed on enquirers by financial market regulations. Another way in which the Czech National Bank is trying to support FinTech is through so-called roundtables. In this form, the Czech National Bank organizes regular meetings with the FinTech community, as well as the wider public, on various topics related to financial innovation. These instruments could help the innovators to overcome the issue connected with the lack of rigidity in the regulator's licensing requirements.

APPROACHES TOWARDS THE LEGISLATIVE SOLUTION

Having established that it would be necessary to introduce a special empowerment provision enabling the Czech regulators to introduce a regulatory sandbox, we can further ponder over the concrete legislative solutions. Should the lawmaker decide to introduce provisions enabling the said regulators (i.e., the Energy Regulatory Authority and the Czech National Bank) to launch a regulatory sandbox, from the purely technical perspective this could be done in several ways. Probably the most convenient solution would be to amend the existing laws by adding an explicit delegation to establish a regulatory sandbox. Such provision could be fairly brief (similarly to the other empowerment provisions), which could nonetheless lead to several applicational problems, since the properties of the sandbox would most likely remain uncovered by the letter of law. Hence, while such provision would formally allow for a regulatory sandbox to be created, it would still be unclear what powers regulator holds within the operation of such sandbox, and whether it can e.g., grant exceptions from various legal obligations.

The second approach to the delegation of power necessary to establish a regulatory sandbox could lie in enumerative selection of provisions which can be granted reliefs from. In this case, it would be substantially clearer what legal provisions could be subject to a relief, however other general principles of sandbox operation will remain unwritten. Moreover, if the sandbox is perceived only as a tool for granting reliefs from legal obligation, there would even be no need for a general empowerment provision to launch a sandbox, as this power would be implied in partial micro-delegations. That is the case with the German Carriage of Passengers Act, which contains a so-called experimentation clause providing that, *"in order to allow for the practical testing of new modes or means of transport, the licensing authority may, upon request on a case-by-case basis, authorise exemptions from the provisions of this Act or from provisions adopted on the basis of this Act for a maximum period of four years, insofar as they do not conflict with public transport interests"*.[46]

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[45] Ibid.

[46] See Sec. 2(7) of Personenbeförderungsgesetz (PBefG) in der Fassung der Bekanntmachung vom 8. August 1990 (BGBl. I S. 1690), das zuletzt durch Artikel 23 des Gesetzes vom 2. März 2023 (BGBl. 2023

The third possible approach could operate with the existence of a special law comprehensively governing regulatory sandboxes regardless of their area of operation. While such law (e.g., Regulatory Sandboxes Act) could provide a solid framework and principles for the operation of various types of sandboxes, it could be seen as rigid and inconvenient to include the empowerment clauses in such law. Thus, a combination of different types of approaches appears to provide the most flexibility, where the empowerment to grant an exception from particular legal obligations could be stipulated in laws governing those obligation, with a more general framework law governing further miscellaneous aspects of sandbox operation.

CONCLUSIONS

Provided the findings described above, the authors regard the objectives of the article as achieved with the following conclusions. While there is currently no regulatory sandbox operating in the Czech Republic, which could be blamed upon the regulators operating in the relevant fields, the authors argue that there is little the regulators can do on their own to change that. Following the principle of legality of public actions and the *intra vires* doctrine demanding that any action undertaken by a public authority must have a basis in the law, the authors reached the conclusion that the current legislative setup does not allow for the establishment and operation of a regulatory sandbox (at least not one allowing the regulator to grant reliefs from legal obligation). Hence, in order for a regulatory sandbox to be created, it would be necessary to first introduce empowerment clauses delegating relevant power onto regulators. Such delegation could be done either by means of a vaguer empowerment clause explicitly enabling the regulator to launch a sandbox, or via various partial empowerment clauses allowing to grant exceptions from the normal regulatory regime, or even by means of a special law comprehensively governing the entire area of regulatory sandboxing.

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I Nr. 56) geändert worden ist: *"Zur praktischen Erprobung neuer Verkehrsarten oder Verkehrsmittel kann die Genehmigungsbehörde auf Antrag im Einzelfall Abweichungen von Vorschriften dieses Gesetzes oder von auf Grund dieses Gesetzes erlassenen Vorschriften für die Dauer von höchstens fünf Jahren genehmigen, soweit öffentliche Verkehrsinteressen nicht entgegenstehen."* The cited translation is provided by the German Federal Ministry of Economic Affairs and Climate Action (See Regulatory Sandboxes: Testing Environments for Innovation and Regulation).

OPEN DATA AND COMPOSITE PROCEDURES: STRENGTHEN THE QUALITY AND THE EFFECTIVENESS OF ADMINISTRATIVE ACTIVITY[1]

ALESSIA MONICA

Abstract: Open data allows new experiments in administration, both in terms of activities and organisation. In terms of composite procedures, open data can serve many public interests in new ways, leading to faster and more accurate decision-making (already at the preparatory level), while it remains difficult to ensure effective judicial protection for individuals in shared administration between the EU and the Member States. In this context, procedural guarantees at the decision-making stage should not be neglected, even more if we consider the EU public administration as a platform, offering data as services, exchanging information and data, cooperating, and competing with public and private actors. Relying on the power of data, however, requires resilient rules, based on EU principles as to assure the rule of law, and able to cope with the challenges of the digital transition, as to ensure the "effectiveness" of administrative activities implementing EU law in each Member State.

Keywords: open data; composite procedures; shared administration; EU law implementation; platforms; artificial intelligence; effectiveness

DOI: 10.14712/23366478.2024.22

1. INTRODUCTION: THE QUALITY OF DATA

Today, administrative activity is being revolutionised by data as a *"reinterpretable representation of information"*,[2] affecting both decision-making and performance, and the organisational dimension, as it enables many activities to be sped up and dematerialised. It follows that data is not simply a commodity but also takes on a social dimension,[3] even more with regard to open data. Although the administrative implementation of EU law is a duty of MS, the EU Treaties and secondary legislation also give the EU Commission, and increasingly the EU agencies,[4] the power to adopt

1 This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

2 CARULLO, G. Dati, banche dati, blockchain e interoperabilità dei sistemi informatici nel settore pubblico. In: GALETTA, D.-U. – CAVALLO PERIN, R. (eds.). *Il Diritto dell'amministrazione Pubblica Digitale*. Torino: Giappichelli, 2020, p. 192.

3 On this purpose, the Digital Governance Act (Regulation (EU) 2022/868 of the European Parliament and of the Council of 30 May 2022 on European data governance and amending Regulation (EU) 2018/1724), at Chapter IV, insists on data altruism and on the share of data in the general interest, regulating the duties of recognised data altruism organisations (Articles 19–21).

4 HOFMANN, H. – TÜRK, A. The development of integrated administration in the EU and its consequences. *European Law Journal*. 2007, Vol. 13, No. 2, pp. 253–271; MENDES, J. The EU Administrative Institutions, Their Law, and Legal Scholarship. In: CANE, P. (ed.). *The Oxford Handbook of Comparative Administrative Law*. Oxford: Oxford Academic, 2020, pp. 526–550; CHAMON, M. EU Agencies: Shifting

administrative decision. Moreover, *"the EU has developed a unique approach to co-operative federalism linking Member State and EU levels in a multitude of procedural forms of cooperation, often through joint data collections and procedures of the use and re-use of such data"*.[5] Therefore, to improve administrative activity, it is believed that quality data should be used, both in case of rulemaking (non-legislative acts with general scope) and in case of single-decision with binding effects on an addressee. The analysis of digital datasets can be used also by public administrations (or by private companies working for them) to understand the most widespread problems, set their goals accordingly, or personalize public services as well as strengthen law enforcement, following *"the data value chain"* which describes the steps needed to generate value and useful insights from data till its final use.[6]

Hence, the use of open data must enable decision-making, which is effectively more complex in the case of composite procedure. Procedural guarantees should not be neglected, already in the preparatory phase of the final proceedings, so the procedure must always pass the proportionality test. In many areas the exchange of information, the complexity of the procedure makes the administration running as a platform, offering services, and exchanging information and data, cooperating, and competing with public and private actors, as direct consequence of a shared administration. Consequently, new rules are invoked as to setting the legal framework,[7] for new experiments *in fieri*, as regulatory sandboxes.[8]

Besides, the debate is still open as to the legal order of the digital world, indeed EU administrative principles have to steer the direction of administrative activity, dealing with the challenges of the digital transition, as to ensure the "effectiveness" of administrative action in the enforcement and in the implementation of the EU law. Administrative activity is often perceived as delayed, poorly motivated, challenged, and even weak because it is not properly understood.[9] Effective administrative action presupposes that the decision is adequate, and there is an appropriate means to the end. Effectiveness, as far as administrative law is concerned, is a further development of the

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Paradigms of EU Administration. In: *EU Law Live: The Agencies of the European Union: Legal Issues and Challenges* [online]. 2023, pp. 4–8 [cit. 2024-03-04]. Available at: https://eulawlive.com/symposia/the-agencies-of-the-european-union-legal-issues-and-challenges/.

5 HOFMANN, H. – MIR, O. – SCHNEIDER, J. P. The ReNEUAL Model Rules on EU Administrative Procedure Revisited. In: FROMAGE, D. (ed.). *Jacques Ziller: a European Scholar*. Fiesole: EUI, 2022, p. 78.

6 CURRY, E. The Big Data Value Chain: Definitions, Concepts, and Theoretical Approaches. In: CAVANILLAS, J. M. – CURRY, E. – WAHLSTER, W. (eds.). *New Horizons for a Data-Driven Economy a Roadmap for Usage and Exploitation of Big Data in Europe*. Cham: Springer, 2016, p. 31.

7 FROSINI, T. E. L'ordine giuridico del digitale. *Rivista Ceridap*. 2023, No. 2, pp. 36–65.

8 *"*[R]*egulatory sandboxes generally refer to regulatory tools allowing businesses to test and experiment with new and innovative products, services or businesses under supervision of a regulator for a limited period of time."* (European Parliament. Briefing: Artificial intelligence act and regulatory sandboxes [online]. European Union, 2022 [cit. 2024-03-04]. Available at: https://www.europarl.europa.eu/RegData/etudes/BRIE/2022/733544/EPRS_BRI(2022)733544_EN.pdf).

9 *"In short, the lack of effectiveness is the current stumbling stone of administrative law."* (CORSO, G. – DE BENEDETTOM, M. – RANGONE, N. *Diritto Amministrativo Effettivo: una Introduzione*. Bologna: Il Mulino, 2022, p. 19). Utmost the reading of this book has inspired the reflection of this article. See also MOUSMOUTI, M. *Designing Effective Legislation*. Cheltenham: Edward Elgar, 2019.

principle of proportionality:[10] the administration has several options to choose from when exercising its power (in the event) with the aim of having meaningful effects on reality. Therefore, the rule (and the consequent decision) has to affect legal positions to be effective.

Consequently, this paper will attempt to highlight how the quality of open data is functional to the effectiveness of administrative activity in composite proceedings. The methodology used is the classical methodology used by lawyers: relevant literature of legal scholarship and official texts; there is no relevant case law of courts that is useful for the purpose of this article. The paper is structured as follows: after a brief examination of the role of open data within the Data Strategy (§ 2), the role of digitisation in supporting data sharing between administrations required to instruct and conclude composite proceedings, will be analysed, in order to clarify whether open data can really act upon the effectiveness of administrative activity (§ 3). Finally, considering EU administration as a platform acting in the data driven society (§ 4), some conclusions will be drawn on the role of useful and quality data also in administrative activity (§ 5).

2. OPEN DATA STRATEGY: A RECOGNITION

Open data is generally data in an open format that can be freely used, reused, and shared by anyone for any purpose.[11] In other words, open data is a data that the administration already has at its disposal after the collection, the possession, and the consumption of large data-sets which represents (including personal data), *"an immanent feature of the powers entrusted to public authorities"*.[12] Specifically, in composite procedures, open data is used and shared by public administrations, between public administrations for administrative purposes.

There are two facts related to the use of data in administrative activity: on the one hand, it is also an expression of the data-driven society and on the other hand, its use leads one to also have to reflect on the axe of public power. The Information and communication technology (ICT) development becomes both an intrinsic feature of public power, and a phenomenon whose regulation is central to economic and social relations as a whole. The "Digital State"[13] is the new asset of public power: public activity is being transformed, in terms of ways and means, through the application of new

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[10] For the proportionality principle as defined in the EU Treaties (art. 5, c. 4 TEU), the action of the Union *"shall not exceed what is necessary to achieves the objectives of the Treaties"*. See also, EMILIOU, N. *The Principle of Proportionality in European Law*. The Hague: Kluwer Law International, 2000, pp. 115–170; CRAIG, P. *EU Administrative Law*. 2nd ed. Oxford: Oxford University Press, 2012, pp. 590–615; TRIDIMAS, T. *The General Principles of EC Law*. 2nd ed. Oxford: Oxford University Press, 2006, pp. 136–174.

[11] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (recast), Recital 16; GOBBATO, S. Il mercato degli Open Data nella nuova Direttiva PSI. In: *Medialaws.it* [online]. 14. 5. 2019 [cit. 2024-04-03]. Available at: https://www.medialaws.eu/il-mercato-degli-open-data-nella-nuova-direttiva-psi/.

[12] CARULLO, G. – ERNST, C. Data Storage by Public Administration. *European Public Law*. 2020, Vol. 26, No. 3, p. 545.

[13] This expression is quoted by the book of TORCHIA, L. *Lo Stato Digitale: Una Introduzione*. Bologna: Il Mulino, 2022.

technologies. Hence, ICT redesign and reorganise public functions and the rules for exercising power and the ways how it is controlled. At the same time, technological development overwhelms economic and social relations, requiring new rules to govern new phenomena such as digital services or the use of artificial intelligence. Not least because digital power also has a significant capacity to affect other constitutionally relevant interests such as, in particular, privacy and the protection of personal data.[14]

As far as Open Data is concerned, it is the key tool to translate the Open Government concept into a real sustainable model, where citizens can evaluate and be part of the decisions taken by public administration, as to also test rules (design of public policies). The open data movement has arisen within a broader trajectory of digitising government services (e-government) moving forward to more *"transparency, accountability and participation"*.[15] The openness determines also governmental, social cultural and environmental, economic benefits: *"openness extends beyond the simple matter of whether or not resources and information are available freely for those who might want to use them"*.[16] Strengthen the openness facilitates a shift of paradigm from the need to move beyond the concept of e-government (focused on digitalization as a lever for process efficiency) and the need for a digital transformation steering a "full digital administration" which can create public value. The goal of digital government relies on *"ecosystem comprised of government actors, non-governmental organisations, businesses, citizens' associations and individuals which supports the production of and access to data, services and content through interactions with the government"*.[17]

First of all, access to open data held by public administrations involves the debate on issues as transparency,[18] participation, and privacy; or better, with reference to its exploitation, it deals with the use of data (even for commercial purposes) beyond the purposes for which the data is collected.[19] These facts mirror a real change in the relationships between administrations and citizens: the idea of openness is strictly related with a liberty right, rather than the mere interest of good administrative behaviour.[20] The starting assumption is that the use of new technologies is a source of new areas of interaction between the administration and citizens aiming to increase public value;[21]

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[14] POLLICINO, O. Di cosa parliamo quando parliamo di costituzionalismo digitale? *Quaderni costituzionali: rivista italiana di diritto costituzionale*. 2023, No. 3, pp. 569–594.

[15] OECD. *Open Government: the Global Context and the Way Forward* [online]. Paris: OECD Publishing, 2016, p. 24 [cit. 2024-03-04]. Available at: https://www.oecd.org/publications/open-government-9789264268104-en.htm. See also, GALETTA, D.-U. Open Government, Open data e azione amministrativa. *Istituzioni del Federalismo*. 2019, No. 3, p. 667.

[16] JETHANI, S. – LEORKE, D. *Openness in Practice: Understanding Attitudes to Open Government Data*. Singapore: Palgrave Macmillan, 2021, p. 17.

[17] OECD. Recommendation of the Council on Digital Government Strategies Digital Government Policy Framework. In: *OECD* [online]. 2014, p. 6 [cit. 2024-03-04]. Available at: https://www.oecd.org/gov/digital-government/recommendation-on-digital-government-strategies.htm.

[18] OROFINO, G. Openness of Public Data and Transparency of Administrative Action. *European Review of Digital Administration & Law – Erdal*. 2022, Vol. 3, No. 2, p. 51.

[19] ORSONI, G. – D'ORLANDO, E. Nuove prospettive dell'amministrazione digitale: open data e algoritmi. *Istituzioni del Federalismo*. 2019, Vol. XL, No. 3, p. 595.

[20] Ibid., p. 597.

[21] Public value refers to various benefits for society that may vary according to the perspective or the actors, including the following: 1) goods or services that satisfy the desires of citizens and clients; 2) production choices that meet citizen expectations of justice, fairness, efficiency and effectiveness; 3) properly ordered

it renews also the ways in which administrative binding action is legitimized as well as the use and implementation of discretionary power.[22]

Assuming that digitalization reinforces certain dimensions of good administration as openness, transparency, efficiency, and accountability, this is possible only thanks to the information which is *"the result of the reinterpretation of what is represented by the data"*.[23] Therefore data itself and the operations that can be processed (by humans or by automatic means)[24] over such data really matters. EU and national administration are not yet fully replaced by modern information and communication technologies, anyway *"core parts of the traditional administrative state have been automated with a significant impact on both institutions and their accountability"*.[25]

But, why public administration's push to open data? A quick response is the attempt to reply to the evolution towards a data-based society, considering that an action at Union level was necessary as to address the remaining and emerging barriers to a wide re-use of public sector and publicly funded information across the Union. The cross-border dimension first affects the administrative activity inherent in composite proceedings. Therefore, as to bring the legislative framework up to date with the advances in digital technologies and to further stimulate digital innovation, especially with regard to artificial intelligence, the Directive on Open Data 2013/37/EU was revised in 2019. As declared in Recitals 8 and 9: *"Providing* […] *information, which includes dynamic data, in a commonly used electronic format allows citizens and legal entities to find new ways to use them and create new, innovative products and services."* Again, *"public sector information represents an extraordinary source of data that can contribute to improving the internal market and to the development of new applications for consumers and legal entities"*. The substantive changes introduced in the revised text testifies the path towards a data driven law.[26]

Referring to data, the legal backdrop is not only made by the Open Data Directive, rather it is the Strategy on Data as a whole to be considered along with the GDPR. The latter represent the leading regulation for trust in the digital data driven society,

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and productive public institutions that reflect citizens' desires and preferences; 4) fairness and efficiency of distribution; 5) legitimate use of resource to accomplish public purposes; and 6) innovation and adaptability to changing preferences and demands. (OECD, *Recommendation of the Council on Digital Government Strategies Digital Government Policy Framework*, p. 6).

22 CHEVALIER, E. – MENÉNDEZ SEBASTIÁN, E. Digitalisation and Good Administration Principles. *European Review of Digital Administration & Law*. 2022, Vol. 3, No. 1, p. 5.

23 CARULLO – ERNST, *c. d.*, p. 548.

24 The Online Browsing Platform (OBP) in ISO vocabulary on information technology defines data as *"reinterpretable representation of information in a formalized manner suitable for communication, interpretation, or processing"* and specifies that *"Data can be processed by humans or by automatic means"* (Information technology – Vocabulary – Part 1: Fundamental terms. In: *Online Browsing Platform* [online]. [cit. 2024-03-04]. Available at: https://www.iso.org/obp/ui/#iso:std:iso-iec:2382:-1:ed-3:v1:en).

25 CATANZARITI, M. – CURTIN, D. Beyond Originator Control of Personal Data in EU Interoperable Information Systems: Towards Data Originalism. In: CATANZARITI, M. – CURTIN, D. (eds.). *Data at the Boundaries of European (Law)*. Oxford: Oxford University Press, 2023, p. 134.

26 See, DE SIMONE, C. Dal riuso delle fonti pubbliche alla European Strategy of Data. *Rivista Giuridica Ambiente Diritto.it*. 2021, Vol. XXI, No. 1, pp. 1–23; BROOMFIELD, H. Where Is Open Data in the Open Data Directive? *Information polity*. 2023, No. 2, pp. 175–188; JAATINEN, T. The Relationship between Open Data Initiatives, Privacy, and Government Transparency: a Love Triangle? *International data privacy law*. 2016, Vol. 6, No. 1, pp. 28–38.

moreover in theory, *"it is hard to identify any kind of data as truly and permanently non-personal"*.[27] Along with these features, data is susceptible to an economic evaluation of its value: the exchange value is generated by considering the possibility of the data being placed on the secondary market.[28] The exchange of data is inspired by the FAIR principle[29] helming all the acts related with the data economy and data sharing as the Digital Governance Act (DGA),[30] the Digital Markets Act (DMA)[31] and the Digital Services Act (DSA).[32] The Digital Governance Act which entered into force on last 24th September 2023, is a Regulation with direct effect creating the processes and structures to facilitate data sharing by companies, individuals, and the public sector, whereas the Directive on Open Data aims to reach common goals among Member States. Furthermore, the Data Act Regulation[33] aims to clarify who can create value from data and under which conditions.

At first glance, a joint reading of the Directive on Open Data and the Digital Governance Act, together with the Data ACT, not only points out the strategic role for economic growth, innovation, and the internal market, arising from the re-use of public sector data, but also, in parallel, aims to drive the development of technologies for analysing, exploiting, and processing data, such as machine learning, Artificial Intelligence Systems and the Internet of Things. All these technologies and tools are used every day to support administrative decisions. In other words, we can think of open data as something that is always embedded in governance and decision-making activity.[34] As a part of the ICT, open data is a tool to allow the EU to achieve its objectives in its areas of competence (even if only of coordination and support), as there is no specific legal basis for the EU action in the digital world.

Against this backdrop, something has to be clarified about big data and its correlation with open data, as not to blur different issues. It goes without saying that big data is something different from open data. Indeed, big data represents large volumes of data which is heterogeneous in terms of type, origin, and format. At the same time, big data can be generated from data produced by public administrations and increasingly shared

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27 ROSSI DAL POZZO, F. – ZOBOLI, L. To protect or (not) to protect: definitional complexities concerning personal (and non-personal) data within the EU. *Rivista Eurojus*. 2021, No. 1, p. 322. See Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a framework for the free flow of non-personal data in the European Union.

28 GALIANO, A. – LEOGRANDE, A. – MASSARI, S. – MASSARO, A. I dati non personali: la natura e il valore. *Rivista italiana di informatica e diritto*. 2020, Vol. 2, No. 1, pp. 61–77. According to the authors, the essential element as to understand the value of data is the ability of data to increase its value through elements such as: circulation, interpretation and functionalisation of data itself. (Ibid., p. 66).

29 They are: findability, accessibility, interoperability, and reusability.

30 Regulation (EU) 2022/868.

31 Regulation (EU) 2022/1925 of the European Parliament and of the Council of 14 September 2022 on contestable and fair markets in the digital sector and amending Directives (EU) 2019/1937 and (EU) 2020/1828 (Digital Markets Act).

32 Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act).

33 Regulation (EU) 2023/2854 of the European Parliament and of the Council of 13 December 2023 on harmonised rules on fair access to and use of data and amending Regulation (EU) 2017/2394 and Directive (EU) 2020/1828 (Data Act).

34 KITCHIN, R. *The Data Revolution: Big Data, Open Data, Data Infrastructures and Their Consequences*. California: Sage, 2014, pp. 54–60.

as open data, as well as from data generated from the digital traces left by individual users/citizens' activities on the web. Therefore, open data is also to be handled with care: a risk based approach, inspired by the General Data Protection Regulation (GDPR),[35] is needed: public bodies have to react promptly, being able to explain the source of the data, and to update or modify it, were it only because the creation of large databases of information are challenging the legal framework and order.[36] This is the path followed in the Proposal of the AI ACT Law which attempts to regulate the risk embedded in AI use and tools,[37] which are also at the basis of the ADM systems.[38] As already said, public administration's use of data is the basis for an interpretation of the data's representation, as to mine the information that allows the decision-making activity – even more fuelled by big data – as a clear example of the functionalism of data exploitation. Indeed, the persuasive power of algorithms and the technique to use them as machine learning aim at predicting social behaviours that are expected to be repeated over time[39] but which could generate discrimination issues in data-supported decision-making.[40] That is the reason why "public" open data should be "quality data".[41] This is the aspect that impinges on the decision-making power and the binding nature of the administrative activity itself, as called for in the Directive (Recital 14).[42] For example, with the Data Act, the EU Commission aims to remove any remaining uncertainty that the *sui generis* right does not apply to machine-generated databases,[43] thus clearing the field

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35 Regulation on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

36 OLIVEIRA PAIS, S. Big data and big databases between privacy and competition. In: CANNATACI, J. – FALCE, V. – POLLICINO, O. (eds.). *Legal Challenges of Big Data*. Cheltenham: Edward Elgar, 2020, p. 15.

37 Proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act) and amending certain union legislative acts. COM (2021) 206 final, in the last version already at first reading by the EU Parliament on last 13rd of March 2024 (Available online at: https://www.europarl.europa.eu/doceo/document/TA-9-2024-03-13-TOC_EN.html).

38 *"AI is being used not only to develop translation within EU services, but also to improve communication with individuals via input platforms and participatory communication tools"*, as well as to assess risk profiles in asylum and immigration matters or to monitor the external borders situations form Frontex. See, HOFMANN, C. H. – GALETTA, D.-U. Evolving AI-based Automation: the Continuing Relevance of Good Administration. *European Law Review*. 2023, No. 48, p. 618.

39 CATANZARITI, M. Algorithmic Law: Law Production by Data or Data Production by Law? In: MICKLITZ, H. W. – POLLICINO, O. – REICHMAN, A. – SIMONCINI, A. – SARTOR, G. – DE GREGORIO, G. (eds.). *Constitutional Challenges in the Algorithmic Society*. Cambridge: Cambridge University Press, 2022, p. 78.

40 European Union Agency for Fundamental Rights (FRS). BigData: Discrimination in data-supported decision making. In: *FRS: European Union Agency for Fundamental Rights* [online]. 30. 5. 2018 [cit. 2024-03-04]. Available at: https://fra.europa.eu/en/publication/2018/bigdata-discrimination-data-supported-decision-making; MENÉNDEZ SEBASTIÁN, E. – MATTOS CASTAÑEDA, B. Better Decision Making, Algorithmic Discrimination and Gender Biases: a New Challenge for the Administration of the 21st Century. *European Review of Digital Administration & Law*. Vol. 3, No. 1, pp. 45–56.

41 ROSENBERG, D. – GITELMAN, L. (eds.). *Raw Data Is an Oxymoron*. Cambridge: Mit Press, 2013, pp. 15–40.

42 Artificial Intelligence Act, COM (2021) 206, Recital 14. Allowing the re-use of documents held by a public sector body adds value for the benefit of re-users, end users and society in general and in many cases for the benefit of the public sector body itself, by promoting transparency and accountability and by providing feedback from re-users and end users, which allows the public sector body concerned to improve the quality of the information collected and the performance of its tasks.

43 On the *sui generis* rights refers to Article 7 of the Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, whereas the Proposal on Data Act clarifies

for the sharing of this data from the risk of infringing on intellectual property rights and pushing the open data potential.

Data mining and data re-use have both a close correlation with composite procedures too. Therefore, ensuring interoperability[44] is very important because it allows different datasets to be merged in order to build even more complex datasets by revealing new knowledge. Again, despite the intellectual property rights and licenses, when it comes to open data there are no restrictions. From our perspective, along with socio-economic, cultural, and statistical data, it is important to make open public data for policy improvement and characterised by the potential for commercial reuse such as economic data, transport data, and spatial data. However, data is not always seen as a product, but can also be a service.[45] Data can be a service, exchanged against remuneration, which, in fact, connects the provider and the recipient. In this sense, therefore, it becomes important that the data is oriented to meet the needs and expectations of the final user. Thereby, "public" open data must be "quality data" inspired by the accuracy principle which is strictly linked with the minimisation principle (Article 5(d) GDPR).[46] The accuracy requires to take all reasonable steps to erase or rectify inaccurate data without delay, moreover in case of ADM where data governance *"is the very oxygen of automation"*.[47] Doing so it is possible to improve the quality of data towards better decisions. Clearly, this aspect impinges directly on the decision-making power and the binding nature of the administrative activity, without neglecting discretionary activity as well. Consequently, transparency as explainability[48] as a first step, allows more certainty regarding decisions and more effective judicial protection, owing to the more important the data and information taken into account become.[49]

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that this right shall not be exercised by public sector bodies in order to prevent the re-use of data or to restrict re-use on data generated by a connected product or related service from being accessed. (Article 5, c. 7).

44 In the EU Decision 2015/2240, interoperability is defined as: "the ability of disparate and diverse organisations to interact towards mutually beneficial and agreed common goals, involving the sharing of information and knowledge between the organisations, through the business processes they support, by means of the exchange of data between their respective ICT systems". There is not a horizontal definition of interoperability, but it is rather defined in each sectorial legislative act. See, for example, Regulation (EU) 2019/818 of the European Parliament and of the Council of 20 May 2019 on establishing a framework for interoperability between EU information systems in the field of police and judicial cooperation, asylum and migration and amending Regulations (EU) 2018/1726, (EU) 2018/1862 and (EU) 2019. See also, CANNATACI – FALCE – POLLICINO, *c. d.*, p. 204.

45 GURSTEIN, M. Should "Open Government Data" be a product or a service (and why does it matter)? In: *WordPress.com: Gurstein's Community Informatics* [online]. 3. 2. 2013 [cit. 2024-03-04]. Available at: https://gurstein.wordpress.com/2013/02/03/is-open-government-data-a-product-or-a-service-and-why-does-it-matter/.

46 Furthermore, as Article 22 of the GDPR argues, the principle of "minimisation" is fundamental in automated processes and in cases of profiling.

47 HOFMANN – GALETTA, *c. d.*, p. 620.

48 CATANZARITI, M. – CURTIN, D. Data at the Boundaries of European (Law): a First Cut. In: CATANZARITI, M. – CURTIN, D. (eds.). *Data at the Boundaries of European (Law)*. Oxford: Oxford University Press, 2023, p. 27.

49 HOFMANN – GALETTA, *c. d.*, p. 632.

3. COMPOSITE PROCEDURES ISSUES AND OPEN DATA FOR THE EFFECTIVENESS OF ADMINISTRATIVE ACTIVITY

The EU administrative activity (both the rulemaking and the decision-making) is increasingly dominated by a range of composite procedures; as well as the attention of legal scholars is often focused on a subjective protection of individuals from procedural guarantees or effective judicial protection.[50] But for public administration, there is also an "objective" purpose, namely, to ensure the legality of administrative action as an answer to a collective need (in a never-ending shift from restrictive acts to service provision activity).[51] If we assume that composite procedures are multi-step procedures, we all recognize that they generate and share information, forming the backbone of an integrated administrative cooperation[52] based on Article 41 of EU Charter of Fundamental rights and on some sectorial legal acts.

On this backdrop, considering the existence of unknown problems for a purely national procedure, which can affect the enforcement of the EU law, it would rather shift the focus to the effectiveness of rules, which can strengthen procedural guarantees in the decision-making, at least. Therefore, in terms of composite procedures, open data can serve many public interests in new ways, leading to faster and more accurate decision-making (already at the preparatory level), while it remains difficult to ensure effective judicial protection for individuals in shared administration between the EU and the Member States. Thus, the EU law entrusts the responsibility to uphold the legal protection of its citizens to the MS and national courts complying with the principle of effectiveness and equivalence which practically affects the institutional and procedural autonomy of Member States themselves.[53] Referring briefly to Kelsen's doctrine, a rule is effective if it is "observed and applied".[54] In EU law, the principle of effectiveness entails an obligation on institutions and administrations not to make it practically impossible or excessively difficult to exercise the rights conferred by the EU legal order; it has been developed by the Court of Justice to ensure full implementation by Member States of EU legal acts without direct effect (Article 10 TCE).[55] Effectiveness, in the context of composite procedures, thus refers to the adequacy of the administrative choice, the

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[50] *Inter alia*, JAN, B. Safeguarding the Right to an Effective Remedy in Algorithmic Multi-Governance Systems: an Inquiry in Artificial Intelligence-Powered Informational Cooperation in the EU Administrative Space. *Review of European Administrative Law*. 2023, Vol. 16, No. 2, pp. 9–36; PALMIOTTO, F. The Role of Courts Before and After the AI Act. In: *Verfassungsblog: On Matters Constitutional* [online]. 5. 1. 2023 [cit. 2024-03-04]. Available at: https://verfassungsblog.de/procedural-fairness-ai/.

[51] BRITO BASTOS, F. Derivative Illegality in European Composite Administrative Procedures. *Common Market Law Review*. 2018, Vol. 55, No. 1, pp. 101–134.

[52] HOFMANN, H. Multi-Jurisdictional Composite Procedures – the Backbone to the EU's Single Regulatory Space. University of Luxembourg Law Working Paper Series, No. 033–2019. In: *SSRN* [online]. 2019 [cit. 2024-03-04]. Available at: https://papers.ssrn.com/abstract=3399042.

[53] GALETTA, D.-U. *Procedural Autonomy of EU Member States: Paradise Lost?* Berlin, Heidelberg: Springer, 2010.

[54] The principle of effectiveness is articulated in the duality of validity and effectiveness. Validity is given by the *Grundnorm*; effectiveness is the ability of the norm to have an impact on legal positions. See KELSEN, H. *The Pure Theory of Law*. California: University of California Press, 1967.

[55] Art. 10 TEC was repealed in the Lisbon Treaty. The obligation for national bodies to ensure the full effectiveness of EU law is laid down in Article 4(3) TEU.

congruence and reasonableness of the means to the end. It is therefore a further declination of the principle of proportionality since it also presupposes the point of view of the administered. Effectiveness, in the case of an administrative decision, is modulated according to the degree of discretion available to the administration and which has consequences for citizens. In the case of constrained activity, the discourse is simpler, therefore it's closely linked to the exercise or non-exercise of the administrative activity. In the case of discretionary activity, the problem of effectiveness already arises in the preliminary activity leading to the final decision. According to composite procedures, difficulties related with a real effectiveness are higher, due to the lack of real judicial protection for the addressee of a final decision in shared administration.

Mention has already been made of the Digital State, of the new questions that the use of technologies brings for governance activities both at the institutional level and according to the relations with and between private individuals and public actors. The basic problem is how to regulate a new world, and how to ensure that administrative activity relies on new rules that, however, guarantee the protection of citizens and the pursuit of the public interest. For its part, the Data Strategy envisages that, in a data-driven society, public actors operate in an environment of trust, (where they are given an operational function to convince public and private organisations and individuals to be trusting in allowing their data to be shared in data spaces). It is no longer *"a question of Member States trusting each other's regulatory, administrative and judicial capacity, but of public and private actors within the EU and outside the EU trusting EU governance as such. EU digital governance is seen as an independent entity, trustworthy on its own merits and future potential scenario"*.[56] Moreover, considering the nine more sectoral data spaces to be created,[57] and the consequent shift of power over both public and private data. Once again, the ICT revolution is forcing administration to be timely and up to date. In fact, this means that decisions must also be based on real-time data. Therefore, the EU administrative activity is not detached from it.

It follows that any new rules must be built on existing and functioning administrative principles, such as transparency, openness, participation, and proportionality. The idea is that the data used by the administration must not only be open, but that, once open, it must be of a quality as to allow the effectiveness of administrative action. Making administration truly effective is the real dilemma of today's administration, moreover because the AI challenges the effectiveness of rules and their implementation by administration,[58] as well as personal rights of citizens. Effectiveness looks at the result and its consequences, it is based on the relationship of trust established with citizens. This is not just a formal aspect, but the effectiveness of an administrative rule (or decision) that provides rights depends on the actual exploitability of the information or enforceability

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[56] REICHEL, J. The European Strategy for Data and Trust in EU Governance: the Case of Access to Publicly Held Data. *Rivista Ceridap*. 2023, No. 4, p. 134.

[57] They are: Industrial data space, Green Deal data space, Mobility data space, Health data space, Financial data space, Energy data space, Agriculture data space, Data spaces for Public Administrations, Skills data space. See European Strategy for Data. In: *Real-time Linked Dataspaces: Common European Data Spaces* [online]. [cit. 2024-03-04]. Available at: https://dataspaces.info/common-european-data-spaces/#page-content.

[58] RANGONE, N. Artificial intelligence challenging core State functions: a focus on law-making and rule-making. *Revista de Derecho Público: Teoría y método*. 2023, Vol. 8, p. 99.

of the protection.[59] Not only a decision must be proportional but also perceived as such as to reach its effectiveness. When it comes to open data, in the view of the author, there are two important first issues to consider: interoperability and participation.

On the first hand, data (its reuse) and the interoperability feed the cycle of rules, improving them. As an example, the interoperable sharing of data from national authorities for *"purposes other than those underlying the contexts in which the data are shared (in the respective legal instruments relating to the databases concerned) may inevitably affect the rights of individuals concerning the use of the data and the extent to which they are instrumental in making decisions on visas, asylum applications or residence permits"*.[60]

This example well reflects the conundrum of data usage after the data is already in the hands of the public administration, raising problems for the data originator.[61] even if it is open and not personal data. The interoperability, dealing with cumbersome technological architecture, which can make it difficult to distinguish the different stages of the information-sharing process, are related with law issues and not only infrastructural ones. On the second hand, participation in processes for the adoption of specific measures is not only a way to make administrative activity open, but also to enable its improvement, moreover in the case of AI tools, by generating data (and information) that is not only knowable but also exploitable. *"The lack of transparency in the use of technology and a lack of accountability could be perceived as potentially harmful to consumers"*[62] jeopardising efforts to make decisions motivated or knowable in the various steps, already in the case of preparatory acts with some binding nature.[63] This is the case of the technical assessment activity carried out, for instance, by some EU agencies which the final decision activity of the EU Commission is based on, as in case of medicines authorization, food, and chemical products.[64] In these areas, the contribution to the proceedings made directly by EU bodies such as agencies is crucial.

Consequently, an administrative option is enriched if it is supported by open data justifying the final choice as it allows one to read the entire path leading to the substantive legitimacy of the decision itself and not only the power under which it was adopted. It's not only a transparency matter, rather, it is a matter in terms of participation in the decision-making process. Investing on the open data and its quality means making

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[59] SIMONCINI, A. – LONGO, E. Fundamental Rights and the Rule of Law in the Algorithmic Society. In: MICKLITZ, H. W. – POLLICINO, O. – REICHMAN, A. – SIMONCINI, A. – SARTOR, G. – DE GREGORIO, G. (eds.). *Constitutional Challenges in the Algorithmic Society*. Cambridge: Cambridge University Press, 2022, p. 27.

[60] CATANZARITI – CURTIN, *Beyond Originator Control of Personal Data in EU Interoperable Information Systems*…, p. 137.

[61] *"With the term 'originalism', we aim to shed light on the interplay between the original legal status of shared personal data and the effects of data sharing over time in the interoperability context."* (Ibid., p. 138).

[62] GIJRATH, S. Consumer Law as a Tool to Regulate Artificial Intelligence. In: MICKLITZ, H. W. – POLLICINO, O. – REICHMAN, A. – SIMONCINI, A. – SARTOR, G. – DE GREGORIO, G. (eds.). *Constitutional Challenges in the Algorithmic Society*. Cambridge: Cambridge University Press, 2022, p. 289.

[63] For a definition of preparatory acts with binding or no-binding nature, see, CJEU (Grand Chamber), Judgment of 19 December 2018, C-219/17, *Berlusconi e Fininvest*, ECLI:EU:C:2018:1023, paras 37 and 38.

[64] On this issue: MONICA, A. *Il "Terzo" Nei Procedimenti Amministrativi Europei*. Torino: Giappichelli, 2020.

administrative activity really adaptable to changes and accountable. In other word, the incremental approach following the need for the adaptability of the law to changes in the society such as the digital revolution is the key also in the everyday exploitation of data by public administrations.[65] In this way, data shall be *"as open as possible, as closed as necessary"*[66] so as to comply with the duty to state reason in case of binding decision and personal rights as well. But not only. The quality of data and its being up to date, grow the real participation in administrative activity. The type of data changes, but not the paradigm of its management, especially in composite proceedings the protection requirements are manifold and, paradoxically, are more complicated. The administrative officer must always justify to the individual how it has exercised a given power.[67] Therefore, even open data can become opaque if not used correctly, or it can generate false and apparent correlations constituting misleading information for administrative activity (both in rulemaking and planning, and in decision-making affecting individual position and liberties),[68] making the purposes of interoperability useless. Again, data is collected by the administration and used for further purposes or as a basis for building AI-based predictive models.[69] However, as the legal doctrine is trying to highlight, the real investment that the administration must carry out is to use open data, AI systems also in an explanatory sense, without forgetting that when decisions are proportionate and stakeholders have participated in the decision-making process, it is more likely that the resulting decisions are, on balance, accurate.[70]

Following this reasoning, it's worthwhile considering that the Open Data Directive deals with specific categories of data, such as *"dynamic data"*.[71] It can be defined as information that changes continually, that is updated with a high frequency and that, if

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65 DALY, P. Artificial Administration: Administrative Law in the Age of Machines. Ottawa Faculty of Law Working Paper, No. 2020-03. In: *SSRN* [online]. 25. 11. 2019 [cit. 2024-03-04]. Available at: https://ssrn.com/abstract=3493381 or http://dx.doi.org/10.2139/ssrn.3493381.

66 GOBBATO, S. Open Science and the reuse of publicly funded research data in the new Directive (EU) 2019/1024. *Journal of Ethics and Legal Technologies*. 2020, Vol. 2, No. 2, p. 147.

67 DALY, *c. d.*, p. 23.

68 MENÉNDEZ SEBASTIÁN, E. L'intelligenza artificiale nel settore pubblico: sulla perenne ricerca di un equilibro tra efficienza e garanzie. *Rivista Ceridap*. 2023, No. 2, pp. 66–84; WEERTS, H. – XENIDIS, R. – TARISSAN, F. – PALMER OLSEN, H. – PECHENIZKIY, M. Algorithmic Unfairness through the Lens of EU Non-Discrimination Law. In: *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency* [online]. New York: Association for Computing Machinery, 2023, pp. 805–816 [cit. 2024-03-04]. Available at: https://dl.acm.org/doi/10.1145/3593013.3594044.
Again, to refer to the specific Italian context, see, *inter alia*, LAVIOLA, F. Algoritmico, troppo algoritmico: decisioni amministrative automatizzate, protezione dei dati personali e tutela delle libertà dei cittadini alla luce della più recente giurisprudenza amministrativa. *Biolaw Journal*. 2020, No. 3, pp. 389–440.

69 MAYER-SCHÖNBERGER, V. – CUKIER, K. *Big Data: a Revolution That Will Transform How We Live, Work, and Think*. Boston: Houghton Mifflin Harcourt, 2013, p. 71; BOULTON, G. – BABINI, D. – WYATT, S. *Open Data in a Big Data World: an International Accord*. Paris, ICSU-IAP-ISSC-TWAS, 2015; WESSELS, B. – FINN, R. – SVEINSDOTTIR, T. – WADHWA, K. Visions of Open Data. In: WESSELS, B. – FINN, R. L. – WADHWA, K. – SVEINSDOTTIR, T. – BIGAGLI, L. – NATIVI, S. – NOORMAN, M. (eds.). *Open Data and the Knowledge Society*. Amsterdam: Amsterdam University Press, 2017, pp. 45–64.

70 DALY, *c. d.*, p. 23.

71 *"Dynamic data"* means documents in a digital form, subject to frequent or real-time updates, in particular because of their volatility or rapid obsolescence; data generated by sensors are typically considered to be dynamic data. art. 2, c. 8 Directive (EU) 2019/1024.

no periodic backups are provided at the architectural level, cannot be recalculated or reconstructed in the event of information loss. The goal is to exploit the economic value of *dynamic data* (including environmental, traffic, satellite, meteorological, and sensor generated data), which depends on the immediate availability of the information and of regular updates.[72] It can also embed *high value* data, as specified in the Commission Implementing Regulation (EU) 2023/138[73] laying down a list of specific high-value datasets and the arrangements for their publication and re-use. The Open Data Directive obliges the Eu Commission to adopt a list of high-value datasets that should be made available free of charge, in machine-readable formats, via Application Programming Interface (APIs)[74] and, where necessary, as bulk downloads.

As a result, this kind of data, whose re-use is associated with significant socio-economic benefits, should be made available under particularly favourable re-use conditions, because of the adoption of the same technical standards and interoperability profiles. Along with the concrete availability of high-data value strictly linked with public interest, as in the case of weather predictive models, the infrastructure issue is of seminal importance also for the exploitation of data itself.[75] Again the potential of *dynamic data* is very high and closely linked to the principle of accuracy and to design that is the hallmark of personal data governance in the Brussels effect,[76] which rather can also be transferred to open data pushing the effectiveness of administrative activity.

In other words, the importance of accuracy comes to the surface when the question arises as to whether the information is correct, and this aspect is not secondary either at the preparatory level of a proceeding or in the case of appeal against an act with binding effects.[77] The problem, in fact, is to be able to check the accuracy of the information so as to assess the fairness of the interpretation made of it for the purposes of decision-making, whether it is more or less constrained, beyond the problem of effective judicial protection. An anchor is the principle of EU administrative law, such as proportionality, which provides that *"the individual shall not be restricted in his freedom of action beyond what is necessary in the public interest, must allow for the effectiveness of action, which not only concerns the aim of the objective, but also its result"*.[78] The Covid experience, for example, has well illustrated how EU and Member State administrations need to collect and rely on essential data[79] in order to take

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72 Ibid., Recital 31.

73 Commission Implementing Regulation (EU) 2023/138 of 21 December 2022 laying down a list of specific high-value datasets and the arrangements for their publication and re-use.

74 *"An API is a set of functions, procedures, definitions and protocols for machine-to-machine communication and the seamless exchange of data."* (Recital 32 of Directive (EU) 2019/1024).

75 Recital 16 of Directive (EU) 2019/1024.

76 Scholars generally agree on the EU's transnational influence on data privacy regulation, therefore the GDPR is being accepted as a standard of data protection applicable to all domestic and cross-border transfers of personally identifiable data. See, RUSTAD, M. L. – KOENIG, T. H. Towards a Global Data Privacy Standard. *Florida Law Review*. 2019, Vol. 71, No. 2, pp. 365–455.

77 VAN DIJCK, J. *The Platform Society: Public Values in a Connective World*. New York: Oxford University Press, 2018, p. 140.

78 CJEU, Judgment of 17 December 1970, Case 11/70, *Internationale Handelsgesellschaft*, ECLI:EU:C:1970:114.

79 RAGONE, G. Imparare dalla pandemia: saperi scientifici e processi di decisione politica. *Quaderni costituzionali*. 2022, No. 1, pp. 73–103.

decisions and implement them effectively, if they are to be truly in the public interest of the community.[80] In this sense, making data available is not just about transparency. It is also about the functional value of the cognitive power of the administration and its balance for effective and timely action in an interoperable space.

4. EU ADMINISTRATIONS AS A PLATFORM: IMPLICATION FOR ADMINISTRATIVE PROCEDURES

As to recap, the discourse on data strategy is linked to composite processes insofar as these same administrative processes are based on data, is re-use, and is exchange, always respecting the principles of justification, transparency, and intelligibility. However, another piece of the puzzle must be added. The data is open, but it is not just a product or a good. It can also be considered a service, or a component thereof. Here then, the conception of the administration as a platform fits well into this framework. The government-as-a-platform model[81] constitutes a transposition of the so-called platform model derived from the platform society or platform economy to the level of institutional governance and administration[82] and it is inspired by the participatory government envisioned by Founding Fathers in the US and rediscovered by Barack Obama in the 2016 presidential election. The platform determines the structures and the economic-social relations with which users interact, setting themselves up as architectures with their own typeable characteristics, distinguishable from other network makers. Through the platform it becomes possible to set up virtual learning environments, e-learning training systems, work, management, research, and monitoring environments, as well as experiences and services organised on several levels of access, according to the type of user.[83]

Thanks to digital technologies, platforms give rise to complex ecosystems.[84] Institutions and administrations make use of platforms to interact with companies, individuals, or with other institutions and administrations and with each other. The DSA defines the "online platform" as *"a hosting service that, at the request of a recipient of the service, stores and disseminates information to the public, unless that activity is a minor and*

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[80] DELLA PIA, R. – ELIANTONIO, M. The Contribution of EU Agencies to Managing the COVID-19 Pandemic: a Polycentric approach to Public Health. In: *EU Law Live: The Agencies of the European Union: Legal Issues and Challenges* [online]. 2023, pp. 27–30 [cit. 2024-03-04]. Available at: https://eulawlive.com/op-ed-the-contribution-of-eu-agencies-to-managing-the-covid-19-pandemic-a-polycentric-approach-to-public-health-by-ruben-della-pia-and-mariolina-eliantonio/.

[81] O'REILLY, T. Government as a Platform. *Innovations*. 2011, Vol. 6, No. 1, pp. 13–40. The author explains the transition from traditional government to government as a platform where *"all of the outcomes aren't specified beforehand, but instead evolve through interactions between government and its citizens, as a service provider enabling its user community"* (p. 15).

[82] BOSCHETTI, B. La transizione della pubblica amministrazione verso il modello Government as a platform. In: LALLI, A. (ed.). *L'amministrazione Pubblica Nell'era Digitale*. Torino: Giappichelli, 2022, p. 7.

[83] *Interoperabilità*. In: *Enciclopedia Treccani della Scienza e della tecnica* [online]. [cit. 2024-03-04]. Available at: https://www.treccani.it/enciclopedia/ricerca/Interoperabilit%C3%A0/?search=Interoperabilit%C3%A0.

[84] VAN DIJCK, J. – POELL, T. – DE WAAL, M. *The Platform Society*. New York: Oxford University Press, 2018, online available in: *Oxford Academic* [online]. 18. 10. 2018 [cit. 2024-03-04]. Available at: https://doi.org/10.1093/oso/9780190889760.001.0001.

purely ancillary feature of another service or a minor functionality of the principal service […]*"*,[85] as the dissemination of specific content to the public constitutes a minor and ancillary feature or functionality of such services. Here, the administration must not only equip itself with technological infrastructures to manage the digitisation processes, but as a platform, it is an infrastructure itself, as a necessary condition to enable full interoperability not only with other public administrations but also with the various actors of the digital era.[86]

Since *"administration as a platform"* has become primarily service-oriented (of various kinds) and the platform offers services on the basis of data that generates information, relationships, big data and, thus, new services; meanwhile open data *"also enables innovation, as developers build applications that reuse government data in unexpected way*s*"*,[87] that allow citizens to actually replace functions of government as in a self-service market. Therefore, Open data is no longer only the paradigm needed to enhance public information assets or to support e-government activities that offer services to citizens, but open data is itself the pivot service through which the administration as a platform operates as utmost citizen/user-supporter. Only in this way can the public administration, as the holder of a huge and valuable data asset, truly compete as an information holder with the various private digital platforms and be able to make better, and thus more effective, decisions.[88]

Referring to the EU integration process and direct administration, it's worthwhile to recognise that it originally had a streamlined and essential administrative structure[89] and for the implementation of the EU policies, indirect implementation or executive federalism was chosen, which assign the implementation of EU law to national administrations with the emphasis on the obligation of cooperation by national administrations. As a result, the EU administration has progressively extended its tasks, especially coordination and liaison tasks by implementing acts (*ex* Article 291 TFUE), following the expansion of the Union's fields of action,[90] and national administrations have been increasingly involved in co-administration. In such cases, investment in ICT has been essential to simplify and make administrative action effective. For example, the eHealth network, which is provided in Article 14 of Directive on cross border health assistance, facilitates on a voluntary basis the cooperation and the exchange of information among MS since 2011. Hence, the exchange of information (and data) is a seminal tool of

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85 Article 3, lett. I, Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act); in particular, Recital 13.

86 SANDULLI, A. Pubblico e privato nelle infrastrutture digitali nazionali strategiche. *Rivista Trimestrale Di Diritto Pubblico*. 2021, No. 2, p. 517.

87 O'REILLY, *c. d.*, p. 26.

88 TORREGIANI, S. Il Dato non personale alla luce del Regolamento (UE) 2018/1807: tra anonimizzazione, ownership e Data by design. *Federalismi.it*. 2020, No. 18, p. 328.

89 CHITI, E. L'evoluzione del sistema amministrativo europeo. *Giornale di diritto amministrativo*. 2019, No. 6, pp. 681–684.

90 SALTARI, L. Le amministrazioni europee: i piani d'azione e il regime dell'attività. In: DE LUCIA, L. – MARCHETTI, B. (eds.). *L'amministrazione Europea e le Sue Regole*. Bologna: Il Mulino, 2015, p. 120.

the shared administration, being grounded on the principle of cooperation and collaboration.[91] From voluntary networks to binding legislative acts directly binding on the Member States, the path has not been smooth, or rather it has required several transversal interventions for the change towards an increasingly digitised and interconnected administration.

One tool of this integration based on ICT, is Regulation 2018/1724, establishing a Single digital gateway to access information, procedures and assistance and problem-solving services. Article 6 of this Regulation requires Member States to make procedures fully available online, steered by the once only principle. This fact implies the effectiveness of administrative activities complying also with the right of good administration of Article 41 of the EU Charter of Fundamental Rights, impacting on procedural autonomy of administrative activities, as well as the idea of space and physical site which is no more relevant. This is a principle of central importance and its effective application results not only in simplification for citizens and businesses who have to deal with public administrations between Member States, but also in essential time savings for the administrations themselves in carrying out their own information and preparatory activities.[92] Here, knowledge is closely linked to the exchange of up-to-date and accurate data, even more so in a dematerialised and cross-border dimension. Already before the digital Gateway, there was SOLVIT a Commission non-binding complaints handling service launched in 2001,[93] which is a database operating as a dispute resolution mechanism that relied on cooperation between national administrations and the EU Commission, established to improve enforcement of internal market regulation via information-sharing and the promotion of common practice.[94] Therefore, I argue that shared administration has already unwittingly been inspired in many activities by the platform model, moving towards a regulatory intelligence that can really lead to an ecosystemic administration that redesigns not only the administrative space, but also the relationship with and within the administrations,[95] bearing in mind the potential liability of the platform for "non-performance according to law" and the behavioural change in the market structure.[96]

On this backdrop, the EU shared administration has almost anticipated the digital revolution that affected the administrative function of the Member States, inevitably also dragging the organisational function towards administration 3.0 which envisages the migration of certain administrative functions to websites, portals and social media.

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91 GALETTA, D.-U. – HOFMANN, H. – SCHNEIDER, J. P. Information Exchange in the European Administrative Union: an Introduction. *European Public Law*. 2014, No. 1, pp. 65–69.

92 GALETTA, D.-U. Digitalizzazione, Intelligenza artificiale e Pubbliche Amministrazioni: il nuovo codice dei contratti pubblici e le sfide che ci attendono. *Federalismi.it*. 2023, No. 12.

93 HARLOW, H. – RAWLINGS, R. *Process and Procedure in EU Administration*. Oxford: Oxford University Press, 2014, p. 85.

94 LOTTINI, M. The SOLVIT Network and the Effective Enforcement of EU Law. What is New? In: DRAKE, S. – SMITH, M. (eds.). *New Directions in the Effective Enforcement of Eu Law and Policy*. Cheltenham: Edward Elgar, 2016, pp. 130–151; This on-line free of charge service is born as a Project Pilot of the EU Commission and there is not a binding act for in order to give it a legal basis.

95 BOSCHETTI, *c. d.*, p. 16.

96 BAGNOLI, V. Platform Role and intermediary responsibility. In: CANNATACI, J. – FALCE, V. – POLLICINO, O. (eds.). *Legal Challenges of Big Data*. Cheltenham: Edward Elgar, 2020, p. 125.

It has looked ahead directly to administration 4.0, which is based on a transformed way of processing data and information through the automated performance of tasks that, before, could only be carried out by human intelligence.[97] The interoperability has become a key principle of digital administrative law,[98] facilitating data flows.[99] On this purpose, the recent Regulation 2024/903 defines 'cross-border interoperability' and not interoperability in a general sense, since the aim of the act is to create an ecosystem of shared solutions for EU administrations, in particular through the creation of spaces for regulatory experimentation under the responsibility of the EU actors or public bodies participating in this project.[100] Besides, attention must be paid… Attention must be paid also to data itself and its features. The social value *dynamic data* embodies has already been mentioned. It stems that this data has to be at the service of the "administration as a platform", as to be exchanged and reused and be really attractive for private actors, as well as for other platforms in the digital landscape.

5. CONCLUDING REMARKS

To conclude, it's worthwhile to recall the link which has steered the reasoning since the introduction: there is the need to make public data increasingly open and make the administrative activity truly effective in the sense of thinking of the result of the action as meeting the needs of the administered.[101] Again, there is the assumption of seeing public data as a service in the EU market and the EU administration as a platform. From this perspective, it's also easier to observe cross-border administrative activity, which by its very nature needs to use ICT to overcome barriers and territorial boundaries, in order to be effective and reach citizens between and across Member States in a multi-level governance. Consequently, many of the experiments of EU co-administration, as Single Digital Gateway (and the information exchange it allows), are possible by open data and its improvement.

Open data, however, should not only be open by default for cognitive reasons related to the principle of transparency. Rather, the real principle that must be taken into

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[97] GALETTA, D.-U. – CORVALÁN, J. G. Intelligenza Artificiale per una Pubblica Amministrazione 4.0? *Federalismi.it*. 2019, No. 3, p. 3. In this paper the process of digitisation of public administration is considered through 4 types of paradigms: Administration 1.0 of the 19th century, using paper and pencil; Administration 2.0, also using faxes, printers and IT tools; Administration 3.0, migrating administrative functions to the digital world; Administration 4.0, processing data and information also in an automated way (both for preparatory and decision-making activities).

[98] BOSCHETTI, *c. d.*, p. 21; CAMPMAS, A. – IACOB, N. – SIMONELLI, F. How can interoperability stimulate the use of digital public services? An analysis of national interoperability frameworks and e-Government in the European Union. *Data & Policy*. 2022, No. 4.

[99] Interoperability is expected to play a key role in several connected EU initiatives such as the roll out of Common European Data Spaces in specific sectors, including a data space for public administrations. European Commission, *Communication on Shaping Europe's digital future*. COM/2020/67 Final.

[100] Regulation (EU) 2024/903 of the European Parliament and of the Council of 13 March 2024 laying down measures for a high level of public sector interoperability across the Union (Interoperable Europe Act).

[101] In other words, we need positive legislation that is pro-business and pro-society: see BALDWIN, R. – CAVE, M. *Taming the Corporation: How to Regulate for Success*. New York: Oxford University Press, 2021.

account is that of proportionality: data must be exploitable and interoperable as functional services for various activities that the administration carries out and services that it in turn offers. The proportionality principle, which permeates the whole of the EU legal systems,[102] allows to choose the right medium in every administrative decision; therefore, in the digital society increasingly oriented towards developing AI systems, data must be inspired by the principle of accuracy derived, in turn, from the GDPR. Accuracy means verifying the pursuit of the objective, in a proportional way since *"no other measure available which is less restrictive of freedom"*.[103] Hence, accuracy of data is a pillar of the effectiveness of shared EU administrative action.

Effectiveness is then necessary to avoid possible distortions resulting from the difficulties of effective judicial protection in many EU composite proceedings. Therefore, making decisions on the basis of quality data (in as much as it is accurate, up-to-date and real) also makes it possible to guarantee the right to good administration to citizens, fostering, *de facto*, the role of shared administration. There are many examples (as well as literature) on asylum and immigration that reveal that information cooperation, fuelled by data sharing and pushing the interoperability mechanism, breaks new ground in EU governance. The plurality of public actors using data (open, personal, and algorithmic) at an operational level (e.g., border and immigration control officials, EU technical agencies involved in authorization schemes of medicines, foods, chemical substances, with the EU Commission and MS) profoundly shapes the nature of information sharing[104] and overcome the data silos storing.[105] *"It confuses automation and discretion"*[106] or at least makes them blurred. Indeed, it affects the effectiveness of administrative action and the protection of legal positions.

Besides, investment in *dynamic data* and *high value data*, as the Commission's Implementing Regulation 2023/138 makes clear, is necessary but not easy. The technological investment is, in fact, accompanied by a large infrastructural investment (and the consequent problem of regulating the ownership and management of the infrastructure itself),[107] which is necessary for data mining activities, the development of cybersecurity,[108] as well as the emerging field of space law research. Again, as far as all research and technological development and space are concerned, EU competence to harmonize national legislation is lacking with the consequence that the EU only can adopt

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[102] TRIDIMAS, *c. d.*, p. 137.

[103] HARLOW – RAWLINGS, *c. d.*, p. 69.

[104] CATANZARITI – CURTIN, *Beyond Originator Control of Personal Data in EU Interoperable Information Systems…*, p. 142.

[105] DE GREGORIO, G. – RANCHORDAS, S. Breaking down information silos with big data. In: CANNATACI, J. – FALCE, V. – POLLICINO, O. (eds.). *Legal Challenges of Big Data*. Cheltenham: Edward Elgar, 2020, p. 206.

[106] CATANZARITI – CURTIN, *Beyond Originator Control of Personal Data in EU Interoperable Information Systems…*, p. 142. Effectiveness of data sharing pushes the problem of data quality from the perspective of the protection of data originator. Briefly, the authors wish a data originalism framework *"according to which data originators are entitled to, in essence, protective rights of information that they process as first or that they share as first (after processing)"* (p. 173).

[107] SANDULLI, *c. d.*, p. 519.

[108] On this purpose, see the recent Regulation (EU, Euratom) 2023/2841 of the European Parliament and of the Council of 13 December 2023 laying down measures for a high common level of cybersecurity at the institutions, bodies, offices, and agencies of the Union.

a framework programme, which shall be adapted or supplemented as the situation changes (Article 182[2] TFEU). While the effectiveness of administrative activity is fuelled by the functionality of data when fully exploited, it must also be accompanied by the support of the technology infrastructure.

I argue that this ongoing issue will be the real litmus test for the unfolding of the potential of public knowledge assets and their competitiveness in the data society. Again, new experiments that digital administration will have to cope with in the future will not only be related to the use of open data in decision-making processes but will increasingly be linked to the joint governance of data infrastructure and its control, in an attempt to handle the (embedded) risk of its misuse.

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AUTOMATED ADMINISTRATIVE DECISION-MAKING: WHAT IS THE BLACK BOX HIDING?[1]

JAN NEŠPOR

Abstract: The exploration of the "black box" phenomenon underscores opacity challenges in automated administrative decision-making systems, prompting a discussion on the paradox of transparency. Advocating for the concept of "qualified transparency", the article aims to navigate the delicate balance between understanding and safeguarding sensitive information. Ethical imperatives, including respect for human autonomy, harm prevention, fairness, and explicability, are considered, culminating in recommendations for human participation, ethicality or accountability by design considerations, and the implementation of regulatory sandboxes to test such models prior to broad integration. Ultimately, the article advocates for a comprehensive discourse on transitioning from a human-centric to an automated public administration model, acknowledging the complexity and potential risks involved.

Keywords: automated administrative decision-making; artificial intelligence; transparency

DOI: 10.14712/23366478.2024.23

1. INTRODUCTION[2]

The introduction of artificial intelligence (AI) into decisions made through automated means with little or no human involvement also known as automated decision-making raised several issues. On one hand, the potential of AI is to evaluate the inputs and all variables to make decisions in complex situations and thus enabling the decision-makers (public administration bodies for the purpose of this article) to make faster and more consistent decisions. On the other hand, the delegation of decision-making power to an algorithm (AI) challenges the legality and the very essence of public administration's decision-making process.

This article delves into prevalent issues associated with the utilization of AI, particularly in the context of automated administrative decision-making (AADM), highlighting concerns such as the lack of transparency or explicability also known as the black box phenomenon. The aim of this article is to provide a comprehensive understanding of

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

[2] The AI generative language model Chat GPT was used in the processing of the paper for the purpose of text proofreading. E-mail: nesporjan@prf.cuni.cz.

the primary challenges arising from the black box while simultaneously suggesting solutions which may minimize its negative aspects.

The first part emphasizes the diverse spectrum of AADM and analyses its complexities which may arise when integrated. Further it provides a showcase of legal perspectives from different countries, ethical considerations, and the challenges posed by the black box phenomenon.

The second part discusses the challenges related to transparency, explicability, and justification in AADM, emphasizing the need for careful examination and regulatory considerations. This part also delves into the balance between the need for transparency and the protection of legally safeguarded interests.

And finally, the third part explores ethical and legal imperatives imposed on trustworthy AADM introducing concept of transparency ensuring fulfilment of said imperatives and security of safeguarded interest. Further it proposes solutions potentially ensuring fairness and mitigation of risks concerned with the evolving nature of machine learning AADM models.

2. UNDERSTANDING THE COMPLEXITIES OF AUTOMATED ADMINISTRATOVE DECISION-MAKING IN THE 21ST CENTURY

The omnipresence of AI throughout the 21st century naturally permeates the public sector and more specifically the public administration. This goes hand in hand with the ever more present digital tools and solutions enhancing the effectivity of public administration often driven by the public demand or the demand of the public administration from within. Such process is often described as a digitalisation of public administration whilst automatization may be just a small part of such.

The use of AI changed the process of automatization dramatically. One of the reasons might be the change of society's understanding of what AI actually is from Alan Turing's code breaking machine invented during the Second World War[3] to today's large language models[4] or deep learning technologies[5]. The more enhanced the AI is the

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[3] HAENLEIN, M. – KAPLAN, A. A Brief History of Artificial Intelligence: on the Past, Present, and Future of Artificial Intelligence. *California Management Review* [online]. 2019, Vol. 61, No. 4, pp. 5–14 [cit. 2024-02-26]. Available at: https://doi.org/10.1177/0008125619864925.

[4] *"[…] models are trained on massive amounts of text data and are able to generate human-like text, answer questions, and complete other language-related tasks with high accuracy"* (see KASNECI, E. et al. ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences* [online]. 2023, Vol. 103, p. 102274 [cit. 2024-02-26]. Available at: https://doi.org/10.1016/j.lindif.2023.102274.

[5] *"Often known as deep neural network, deep learning consists of many layers with a number of neurons in each layer. Such layers may range from a few to thousands, and each layer may contain thousands of neurons (processing unit) in addition. Multiplying the input values with the allocated weight to each input and summing up the result are the simplest process in a neuron. This result will be further scrutinized by the activation function."* (see PATIL, T. et al. A Review on Basic Deep Learning Technologies and Applications. In: KOTECHA, K. et al. (eds.). *Data Science and Intelligent Applications* [online]. Lecture Notes on Data Engineering and Communications Technologies, Vol. 52. Singapore: Springer, 2021 [cit. 2024-02-26]. Available at: https://doi.org/10.1007/978-981-15-4474-3_61.

more the number of AI public administration and/or automated system use cases offers. This does not come as a profound provocative theory but rather a simple course of things due to the impact of technological developments.

However, the simplicity of such outcomes should not divert attention from the profound influence that contemporary technologies, particularly advanced AI, exert on the public administration's decision-making and the role of human-centric systems (such as public administration) within today's society.

As Olsen et al. stresses, the automated (administrative) decision-making (AADM) comes in a wide range of formats.[6] Rather than one specific model or a solution, the AADM is more of a spectrum of solutions for the automatization of administrative decision-making processes.

Understanding the AADM spectrum involves considering a set of variables that simultaneously alter its structure and limits. When examining the spectrum in terms of AADM complexity, one end can be defined by the straightforward decision tree mechanisms, while the other end could be characterized by deep neural networks. Whilst decision trees are models where the automated decision is made by simple "if this then that" algorithm, operating in a sort of binary or linear decision mechanism,[7] the deep neural networks is "brain inspired" model of machine learning algorithm operating in a non-linear way. In simple words, machine learning is model of AI which allows the algorithm to gradually improve its accuracy by learning (the similar way humans do) and deep neural network is a type of machine learning that simulates the functioning of a human brain by transporting input data between multiple layers and units (neurons) each time weighting the transferred information.[8]

Another important differentiation is by AADM model's application in the actual administrative decision-making process. The question lies whether the AADM model is used only for one part of the process (i.e., delivering the final decision) or if it's used for the whole administrative procedure from the initiation, gathering of the factual information up until the final decision.[9]

Both the complexity of AADM and the range of parts of decision-making procedures, where the AADM is deployed are subject to questions of technical character of

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6 OLSEN, H. P. et al. *What's in the Box? The Legal Requirement of Explainability in Computationally Aided Decision-Making in Public Administration*. iCourts Working Paper Series, No. 162. University of Copenhagen, Faculty of Law, 2019, p. 9.

7 HILDEBRANDT, M. Algorithmic regulation and the rule of law. *Philosophical Transactions of the Royal Society A* [online]. 2018, Vol. 376, No. 2128 [cit. 2024-02-26]. Available at: https://doi.org/10.1098/rsta.2017.0355.

8 See DENG, L. – YU, D. Deep Learning: Methods and Applications. *Foundations and Trends in Signal Processing* [online]. 2014, Vol. 7, No. 3–4, pp. 197–387 [cit. 2024-02-26]. Available at: http://dx.doi.org/10.1561/2000000039; or AOUICHAOUI, A. R. N. et al. Comparison of Group-Contribution and Machine Learning-based Property Prediction Models with Uncertainty Quantification. *Computer Aided Chemical Engineering* [online]. 2021, Vol. 50, pp. 755–760 [cit. 2024-02-26]. Available at: https://doi.org/10.1016/B978-0-323-88506-5.50118-2.

9 As Hofmann states, at the beginning of last year, there was not an AADM model deployed, that would cover the entire administrative procedure's cycle, from initiation to implementation of measures (see HOFMANN, H. C. H. Comparative Law of Public Automated Decision-Making. An Outline. *Rivista Interdisciplinare sul Diritto delle Amministrazioni Pubbliche* [online]. 2023, No. 1, pp. 1–12 [cit. 2024-02-26]. Available at: https://doi.org/10.13130/2723-9195/2023-1-3.

the AI. From a legal perspective and based on the regulation from some of the European countries, some of the often legally addressed issues are associated with other variables.

Kischel summarizes that Germany's jurisprudence and literature widely advocates for the more detailed explanation the wider the discretion of an administrator is.[10] Germany adopted a provision in Administrative Procedural Act (*Verwaltungsverfahrensgesetz*) proclaiming, that an administrative decision may be adopted entirely automatically, but only in cases without any room for discretion or assessment,[11] thus highlighting the risk of inability of AADM to sufficiently assess all relevant circumstances and in accordance to exercise discretional powers.

The French Code of Relations Between the Public and the Administration (*Code des relations entre le public et l'administration*) allows administrative individual decision to be adopted automatically, however under the condition, that the subject of such decision is informed about the automatic nature and the purpose of such automatization.[12] Furthermore this subject also has the right to be provided with the information about the (i) degree and method of this automation, (ii) the data processed and their sources, or (iii) processing parameters.[13] Some nations like Sweden adopted only the possibility to deliver administrative decisions by automatic means, however without any specific provisions as France or Germany did.[14] Choosing a more technological neutral approach while leaving the regulation of AADM to the general norms of administrative law. Sweden's approach corresponds with Olsen et al. who argue that the AADM should not be a subject to different legal standards than solely human decisions, as this is further addressed in the third part of this article.[15]

The provided overview of some nation's regulation of AADM is just a showcase of a multiple approaches. Whilst some nations tend to regulate the most essential risks such as the lack of discretion, possible infringement of data privacy and/or lack of transparency, others rely on general norms that ensure the legality of decisions both with and without the use of AADM models.

Some authors argue that the use of AI in decision-making might be from a deontological point of view unethical because of the inefficiency to identify uniqueness and of potentially causing harm to its subjects.[16] The deontological logic follows an approach that some things are either good or bad disregard of what the actual outcomes are. I argue that this might create problems mainly towards the general trust of public

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[10] KISCHEL, U. *Die Begründung: Zur Erläuterung Staatlicher Entscheidungen Gegenüber Dem Bürger*. Tübingen: Mohr Siebeck, 2003, pp. 223–224.

[11] Article 35a of Administrative Procedure Act (Germany) in the version published on 23 January 2003, as amended.

[12] Articles L311-3-1 and R311-3-1 of Code of Relations Between the Public and the Administration (France) in the version published on 1 January 2016, as amended.

[13] Ibid., Article R311-3-2.

[14] Section 28 of the Administrative Procedure Act (Sweden): *"A decision can be made by an officer on their own or by several jointly or be made automatically…"*

[15] OLSEN et al., *c. d.*, p. 6.

[16] YAN, C. et al. When the Automated fire Backfires: the Adoption of Algorithm-based HR Decision-making Could Induce Consumer's Unfavourable Ethicality Inferences of the Company. *Journal of Business Ethics* [online]. 2023 [cit. 2024-02-24]. Available at: https://link.springer.com/article/10.1007/s10551-023-05351-x.

administrations addressee towards the validity of automatically decided matter. However, the analysis of the relationship between the automatization of public administration decision-making and the trust of its addressees is not aim of this article but rather a one of the emphasized challenges of AADM.

The German example of AADM's regulation shows a concern that the absence of discretion when using an AADM model might severely affect the legality and the factuality of a given decision. As Henman emphasizes, a great number of administrative areas require human decision-makers to exercise discretion and to personalize the decision in complex situations. Therefore, the lack of discretion raises concerns about the appropriate consideration of all variables in an administrative decision-making.[17]

While the ethical and discretionary concerns when using AADM, as well as the emphasis on the security and protection of personal data are substantiated, this article predominantly centres on the phenomenon of the black box in AADM. This term was used by Pasquale as a metaphor to describe a system *"whose workings are mysterious; we can observe its inputs and outputs, but we cannot tell how one becomes the other"*.[18]

Given the sometimes-complex nature of AADM based on neural networks, deep neural networks, or any other advanced model of AI, the inherent opacity challenges fundamental principles of administrative decision such as the transparency, explicability, and/or accountability.[19]

3. THE PARADOX OF TRANSPARENCY: BALANCE BETWEEN JUSTIFICATION AND PROTECTION

Naturally the range of opacity surrounding the AADM differs based on the complexity of the AI model used. This is sometimes addressed by Dyson as the "third law of artificial intelligence" claiming that: *"Any system simple enough to be understandable will not be complicated enough to behave intelligently, while any system complicated enough to behave intelligently will be too complicated to understand."*[20] Dyson also advocates that the relationships between AI and humans are rather a matter of faith than of proof, meaning that humans are perfectly capable with using or being a subject to things, which we cannot understand. Innerarity argues that opacity and invisibility are not an epistemic anomaly, but they are part of daily life and that using only fully comprehensible mechanisms limits benefits of any technology.[21] Take a human brain for example. After hundreds of years, the neuroscience still has difficulties

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17 HENMAN, P. Improving public services using artificial intelligence: possibilities, pitfalls, governance. *Asia Pacific Journal of Public Administration* [online]. 2020, Vol. 42, No. 4, pp. 209–221 [cit. 2024-02-24]. Available at: https://doi.org/10.1080/23276665.2020.1816188.

18 PASQUALE, F. *The Black Box Society*. Cambridge: Harvard University Press, 2015, p. 3.

19 For the sake of simplicity, the advanced AI-based AADM model will henceforth be denoted simply as the AADM or AADM model.

20 DYSON, G. The Third Law. In: BROCKMAN, J. (ed.). *Possible minds: 25 Ways of looking at AI*. New York: Penguin Press, 2019.

21 INNERARITY, D. Making the black box society transparent. *AI & Society* [online]. 2021, Vol. 36, pp. 975–981 [cit. 2024-02-26]. Available at: https://doi.org/10.1007/s00146-020-01130-8.

to answer simple question "how does a human brain work?". And yet, human brain has demonstrated its capacity to discover penicillin, achieve manned moon landings, or establish a set of universally accepted rules, commonly referred to as the law.

A full comprehension of AADM inherits the need to open the black box and provide full transparency. Yet, supposing one were to argue for the contrary stance, insisting on complete transparency for AADM, asserting that every individual should grasp "how the inputs transform into outputs" or "how the data inputted into the AADM model translates into the administrative decision", the issue of transparency necessitates a more comprehensive evaluation.

Hamon et al. refers to transparency in terms of AI as to *"possibility to have a complete view on a system, i.e., all aspects are visible and can be scrutinised for analysis"*.[22] In this sense the transparency is further distinguished into three levels: (i) the *transparency of implementation*, meaning that the technical parameters and principles of the model are known, and the outcomes are therefore predictable;[23] (ii) the *transparency of specifications* referring to the knowledge of task, objectives or context of the model as to the training dataset and training procedure; and (iii) the *transparency of interpretability* provides a general understanding of the logic behind an AADM model and provides sufficient reasoning.[24]

To offer a more pragmatic perspective, does full transparency allow the subjects of AADM to fully comprehend how the model reached the final decision? Can complete transparency potentially compromise other legally protected interests? To answer such provocative questions, the question and where or why does it exist needs to be subject to an examination.

Burrell, Lepri et al., or Innerarity concur that opacity does not inherently imply wrongdoing and, in certain instances, may have justified reasons explaining why it exists and/or that there are safeguards against potential threats. As to provide safeguards or to protect other legally protected interests or certain elements of AADM model, such opacity is referred to as *intentional* or *deliberate*. Created or existing due to legitimate concerns such as the will to protect one's intellectual property, state secrecy, personal information, or sometimes details and information of which disclosure is limited.[25] However this does not come always as a persuasive argument. A more compelling argument is provided by Lepri et al. who suggest that the open source-ness of AADM might lead to risk of "gaming the system" meaning, that subject of AADM would have the advantage to provide information in a certain way allowing them to get the desired

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[22] HAMON, R. et al. *Robustness and Explainability of Artificial Intelligence* [online]. Luxembourg: Publications Office of the European Union, 2020, p. 11 [cit. 2024-02-26]. Available at: https://doi.org/10.2760/57493.

[23] Such model is also known as "white-box model" as opposite to "black-box model", which is subject of this article.

[24] HAMON et al., *c. d.*, pp. 11–12.

[25] See BURRELL, J. How the machine 'thinks': understanding opacity in machine learning algorithms. *Big Data & Society* [online]. 2016, Vol. 3, No. 1 [cit. 2024-02-26]. Available at: https://doi.org/10.1177/2053951715622512; and LEPRI, B. et al. Fair, Transparent, and Accountable Algorithmic Decision-making Processes. *Philos. Technol* [online]. 2018, Vol. 31, pp. 611–627 [cit. 2024-02-26]. Available at: https://doi.org/10.1007/s13347-017-0279-x.

form of a decision, therefore leaving no discretion for the public administration whatsoever.[26] Compared to human decision-making, the "gaming of a system" corresponds to manipulating or even bribing of the human administrator. That is of course forbidden, however a prohibition of "gaming the AADM" might not be as effective, since is less visible and harder to prove than human manipulation and/or bribery.

Due to the natural lack of knowledge about algorithms, AI or data science, transparency does not enable the general public to comprehend the decision-making process of an AADM model. Due to this fact, the second type of opacity is addressed as *illiterate*[27] or more precisely as an *objective*[28] transparency. Thus, even a fully transparent AADM does not ensure its comprehension by public. The understanding and interpretation of AADM models is up to educated few, but in similar sense, so is the law.

Finally, the third type of transparency – *intrinsic* or *emerging* is caused by the scalability of machine learning AI and emerging unpredictability and unintentionality. As Lepri et al. concludes this may be tackled using alternative easy to interpret machine learning models but with the inherent disadvantage of lower precision.[29] Hence, the overarching inquiry revolves around the deliberation on whether to opt for a model that prioritizes transparency at the potential cost of accuracy, or conversely, a less transparent (black box) model that may exhibit enhanced accuracy. The problem with AADM that is complicated enough to cause an *emerging opacity* is usually referred to as the *interpretability problem*. From a legal perspective, there is a need to distinguish between and interpretable AI and explainable AI. Whereas the interpretability is defined as a *"level of understanding how the underlying (AI) technology works"*[30] the explicability is the *"level of understanding how the AI-based system* […] *came up with a given result"*.[31] Having the differentiation in mind, does the lack of interpretability raise a relevant concern at all?

European regulation found its answer in putting the emphasis on explicability rather on full transparency or interpretability. This can be demonstrated by the provisions adapted in Article 15(1)(h) together with Article 22(1) & (4) of the General Data Protection Act[32] (GDPR). Under this provision, the data subject has the right to receive information regarding any automated decision-making process of its data, including the underlying logic behind the decision, along with details about its significance and envisaged consequences, thus granting the data subject "a right to an explanation".[33]

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26 LEPRI et al., *c. d.*

27 BURRELL, *c. d.*; and LEPRI et al., *c. d.*

28 INNERARITY, *c. d.*

29 LEPRI et al., *c. d.*

30 International Organization for Standardization & International Electrotechnical Commission. Software and Systems engineering – Software testing – Part 11: Guidelines on the testing of AI-based systems. 2020, Art. 4(1)(42).

31 Ibid., Art. 3(1)(31).

32 Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

33 See GOODMAN, B. – FLAXMAN, S. EU Regulations on Algorithmic Decision Making and a "Right to Explanation". *AI Magazine* [online]. 2016, Vol. 38, No. 3, pp. 3–112 [cit. 2024-02-26]. Available at: https://doi.org/10.1609/aimag.v38i3.2741.

Innerarity does not see the right to an explanation as "autopsy of the system" but instead as a principle of self-control that lessens the knowledge gap between the subject of an AADM and its developer. Similar argument is argued by Doshi-Velez et al. framing the AI's explicability as the interpretable depiction of a process, where a decision-maker reached to a particular conclusion based on a particular set of inputs.[34] This underscores the distinction between interpretability and explicability, as mentioned above.

From a different standpoint Hildebrandt clarifies that explanation is not necessarily justification and claiming that *"knowing how the algorithm came to its conclusion does not imply that the conclusion is 'in accordance with the law'"*.[35] A case where a black box provides a superficial explanation with no justification whatsoever Pasquale calls a *"mere façade of an explanation"*.[36] It is my believe that definition provided by Doshi-Valez et al. disregards the opacity between inputs and outputs and thus leaving space for doubts regarding the lack of bias or fairness of the AADM.

The GDPR regulates only a right to an explanation in connection to any data processing which applies in several cases including, but not limited to, administrative decision-making. But in terms of AADM the law mandates the consideration of additional legal requirements for administrative decisions, irrespective of whether they are automated. On the European level such prerequisites are set forth by the Charter of Fundamental Rights of the European Union (CFR) or by Treaty on the Functioning of the European Union (TFEU).

The CFR stipulates in Article 41 the right to good administration containing the obligation of the administration to give reasons for its decision and the Article 296 of TFEU enshrines a duty to give reasons upon which a legal act was based. Court of Justice of the European Union (CJEU) ruled in this matter stating that *"the duty to give reasons which is justified in particular by the need for the Court to be able to exercise judicial review, must apply to all acts which may be the subject of an action for annulment"*.[37]

The CJEU here at once provided the logic behind the emphasis on explicability and/or justification. The crucial aspect, when addressing AADM, is the ability of any subject to contest such decision in an administrative or judicial proceedings.[38] Thus, mandating for dismantling of the façade of an explanation and for the provision of logical and legal justification in a manner that may be subject to challenge, as prescribed by the law. The comprehensive regulation governing "legal acts making", as per the cited CJEU case law, including administrative decisions, incorporates safeguards to necessitate a justification rather than a superficial explanation. Needless to say, that while this regulation

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[34] DOSHI-VELEZ, F. et al. *Accountability of AI Under the Law: the Role of Explanation*. Berkman Klein Center Working Group on Explanation and the Law, Berkman Klein Center for Internet & Society working, 2019.

[35] HILDEBRANDT, *c. d.*

[36] PASQUALE, *c. d.*, p. 142.

[37] Judgment of the Court of the CJEU (Second Chamber), Case C-370/07, *Commission of the European Communities v. Council of the European Union*, ECR I-08917, recital 42.

[38] Judgment of the General Court of the CJEU (Eight Chamber), Case T-181/08, *Pye Phyo Tay Za v. Council of the European Union*, ECR II-01965, recital 94.

(e.g., CFR or TFEU) doesn't guarantee justification for every automated decision-making process, it does ensure it for the AADM.[39]

While justification allows a subject of an automated administrative decision to contest it, it does not provide a clear explanation of the accountability question. Pasquale claims that *"without transparency, accountability is impossible"*,[40] however full transparency does not guarantee accountability in all cases.[41] When talking about AADM, the discussion has to acknowledge the implications a decision (especially a wrong one) might have on its subjects. What if the AADM model adopted a wrong decision causing harm to its subject? Who is accountable? Is it the developer or the administrator who was overseeing the administrative process? What if the AADM is without human intervention, the so called "human outside of the loop AADM"? As Motzfeld summarised succinctly *"you cannot put R2D2*[42] *in a jail"*, addressing that an inhuman subject, an algorithm in this case, does not suffer from consequences if accountable and fear of sanction is therefore futile.[43] In a given case, it is possible to hold the public administration fully accountable, possibly with a right of recourse against the administrator responsible for the decision-making process, perhaps against the administrator who was present in the office. However, I share Pasquale's view[44] that this approach is impractical and would place unreasonable demands on the administrators involved.

The question of AADM accountability is even clearer considering cases of AADM either trained on "bad data" or progressively exhibiting biased or otherwise flawed decisions. Instances of automated decisions that exhibited bias against women[45] or Afro-Americans[46] leading to unfair outcomes, underscore the pressing need for transparency, at least in terms of *implementation transparency*. Even though it is fair to acknowledge the remark of Henman, that treating cases differently does not necessarily have to be a discrimination but rather a form of personalization,[47] such considerations should be a subject of broader ethical and human rights considerations, which are beyond the scope of this article.

As I argued above, an undue emphasis on transparency may in some cases compromise other legally protected interests such as the protection of sensitive information

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39 At least in the European Union.

40 PASQUALE, *c. d.*, p. 175.

41 LEPRI et al., *c. d.*

42 R2D2 is a fictional character (droid or a robot and therefore an artificial existence with developed intelligence) created by George Lucas for the STAR WARSTM franchise.

43 Hanne Marie Motzfeld is a professor at Faculty of Law Research Centres at the University of Copenhagen in Denmark, said rephrased statement is derived from our discussion, and the ultimate phrasing was contingent upon her endorsement.

44 *"*[…] *full transparency of federal agency actions— let alone the actions of private firms— is far off. Too many regulators are underfunded, overworked, or angling for lucrative jobs from the very firms they are supposed to be regulating."* (see PASQUALE, *c. d.*, p. 175).

45 DASTIN, J. Amazon scraps secret AI recruiting tool that showed bias against women. In: *Reuters* [online]. 10. 10. 2018 [cit. 2024-02-26]. Available at: https://www.reuters.com/article/amazoncom-jobs-automation/insight-amazon-scraps-secret-ai-recruiting-tool-that-showed-bias-against-women-idUSL2N1VB1FQ/?feedType=RSS%26feedName=companyNews.

46 ALLEN, J. A. The color of algorithms. *Fordham Urban Law Journal*. 2019, Vol. 46, No. 2, pp. 219–270.

47 HENMAN, P. Improving public services using artificial intelligence: possibilities, pitfalls, governance. *Asia Pacific Journal of Public Administration* [online]. 2020, Vol. 42, No. 4, p. 216 [cit. 2024-02-26]. Available at: https://doi.org/10.1080/23276665.2020.1816188.

including intellectual property, personal data, or risks of exposing weaknesses of an AADM model allowing some subjects to exploit them. However, at the same time complete "black box-ness" of AADM might lead to unfair biased decisions and with no accountability measures put in place might lead to a "Computer Says No" paradox as was described by Wihlborg et al.[48] This paradox is a reference to a sketch from a British TV comedy show called "Little Britain" where an "a sort of" administrator unwaveringly insists on the decision made by "a sort of" automated decision-making model because the "computer" said so, even though it was clearly wrong.[49]

The issue of transparency is not a straightforward yes-or-no matter; rather, it involves several intricate questions that regulators must address if they intend to integrate AADM into their public administration. However, if the regulator wishes to secure explicability or justification of AADM and to establish a model of AADM's accountability that is equitable and not overly burdensome on the administrators, I contend that, building upon the abovementioned considerations, it is imperative to commence with some degree of transparency.

4. CHALLENGES IN THE INTEGRATION OF AADM

The European Commission's high expert group on AI published an Ethics Guideline for Trustworthy AI claiming, that a trustworthy AI or its use, should be lawful, ethical, and robust.[50] As the question of technical and social robustness is beyond the aim of my analysis, this part of the article further explores solutions fulfilling the lawfulness and ethicality of a potentially applicable and trustworthy AADM. The ethicality of AI in a sense of the said guideline is composed by four principles specified as ethical imperatives i.e., (i) respect for human autonomy; (ii) prevention of harm; (iii) fairness; and (iv) explicability. The first two principles are related to the robustness and operational details of AI either calling for design respecting the human autonomy or for providing safeguards preventing any harm to subjects of AI and/or AADM. The latter two principles are reflected by imperatives regarding specifically machine learning models advocated by Lepri et al. who argue that such models should feature transparency, accountability, and fairness.[51]

According to my analysis transparency is a prerequisite for the explicability of AI and justification in case of AADM and the same holds true for ensuring fairness. Even though Pasquale calls for transparency in order to secure accountability of a black box,

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48 WIHLBLORG, E. et al. "The Computer Says No!": a Case Study on Automated Decision-Making in Public Authorities. In: *2016 49th Hawaii International Conference on System Sciences (HICSS)*. Piscataway, NJ: IEEE, 2016, pp. 2903–2912.

49 In this episode a little girl goes to hospital to get her tonsils removed, however the hospital clerk insists, that she is going for a double hip replacement operation, because "The computer said no!" (see *Little Britain USA*. Episode 1 [Episode of a TV Show]. HBO. 28. 10. 2008).

50 Directorate-General for Communications Networks, Content and Technology (European Commission). Ethics Guideline for Trustworthy AI. In: *European Commission: Shaping Europe's digital future* [online]. 8. 4. 2019 [cit. 2024-02-26]. Available at: https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai.

51 LEPRI et al., *c. d.*

at the same time he underlines that full transparency would *"be a nightmare of privacy invasion, voyeurism, and intellectual property theft"*. Instead, he proposes something he calls *"qualified transparency"*, a model of transparency where a trusted and possibly regulated subjects have full access to transparency while at the same time being able to assess a black box's functioning. Also, as some authors argue transparency does not necessarily lead to an increase of intelligibility among average citizens, or that due to complexity full transparency can be overwhelming.[52]

In my interpretation qualified transparency is not only in need of a trusted authority but also of an educated one and thus overcoming even the *objective* and possibly even the *emerging opacity*. It is my belief, that such models guarantee safety, fairness and provide grounds for the accountability.[53, 54] I argue that this approach makes a path for full transparency but in case of AADM on a sort off "security clearance" and "expertise" based approach.[55]

As was addressed in the first part of this article, Olsen et al. suggest, that introduction of AI based decision-making models (i.e., AADM) should not be prevented by a regulation requiring full transparency and thus creating different legal standards. The proposed question is that a human decision-making regulation does not require a background check or the neurological screening of a particular administrator, so why should the regulation treat AADM any differently?[56] The nuances are where challenges emerge.

Motzfeldt explains, that any public administration[57] is a "fine-tuned system" with checks and balances developed over its history. The term "disruptive technology" is aptly applied to AI, signifying its potential to disturb the established order. The automation of public administration serves as just one example of this potential disruption. Therefore, with the introduction of AI there is a need to apply different standards at least.[58]

An administrative decision is still an individual act of public administration affecting the rights and obligations of a subject. Automated or not, the basic standards need to be met in order to secure legality of such decision. To this point I agree with Olsen et al. However, what Motzfeldt indicated, is that the technology indeed has a great potential but at the same time with automatization comes a lot of emerging features which may have serious impacts. Some of which were presented in this article.

Qualified transparency together with provided justification to each decision might fulfil the aspect of legality of decision made by AADM model. However, the question of fairness may start long before a decision is made. As Ettore suggests, ensuring fairness including equality of arms when contesting an automated decision is also a matter

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52 INNERARITY, *c. d.*

53 Particular models of accountability will differ based on nations' approaches, however models to consider are with some division of accountability between the "qualified" authority assessing a fully transparent AADM model and the human decision-maker.

54 PASQUALE, *c. d.*, p. 142.

55 This model ensures that only trusted and educated authorities have a full access to analyse details of an AADM model thus ensuring lawfulness, ethicality, and robustness.

56 OLSEN et al., *c. d.*, p. 6.

57 For example, the public administration in Czech Republic has its roots from Austrian-Hungarian empire long before AI was invested, whereas the current model is not that different.

58 Said rephrased statement is derived from a discussion with prof. Motzfeldt, and the ultimate phrasing was contingent upon her endorsement.

of models' design.[59] As previously noted, the technical specifications of an AADM model are not a subject of this article, nevertheless it is important to highlight that the abovementioned imperatives can be integrated into the AADM's model itself without the need for additional mechanisms to supply them. Provided that these models are designed accordingly.[60]

Naturally machine learning models, even if designed in fairness, transparency and accountability share an inherent disadvantage and that is, that they are by nature constantly evolving. Even a fair AADM model might come to point where it starts to produce biased or unfair decisions. For this purposes Olsen et al. advocates for two models that ensure supply of fresh inputs and keep human-in-the-loop while maximizing efficiency at the same time.

I call theirs first model a "80:20 split", whereas the logic behind it is that a respective administrative authority process decisions which are randomly split in two loads between an AADM model producing 80% of all drafts and a human administrator producing the rest 20%. All drafts are subsequently reviewed and signed off by a human administrator. The AADM model is continuously updated by all final decision with a human touch.[61]

The second model is called by the collective of authors is an "Administrative Turing Test". Inspired by Alan Turing's test determining whether a machine can think, this test is composed of a set-up in which a particular percentage of entire case load is given to a human administrator and to an AADM model. Both drafts are then reviewed by a "judge"[62] not knowing which draft was made by human and which by an AADM model. At the end, the most convincing draft is issued and used to update the AADM model.[63]

Both proposed models are not from my standpoint sufficient to ensure a fair and accountable AADM model, but at same time generate some thought-provoking suggestions about possibilities how to implement AADM and not to lose human touch.

My final proposal, considering the severity and the outcomes of a possibly wrong AADM, is that the AADM model should be a subject to a regulatory sandbox before its implementation into day-day administrative decision-making. This environment used for testing of innovative technologies, facilitating development under direct supervision of competent authorities[64] can together with all other mentioned proposals ensure

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59 ETTORRE, F. P. The Right to Contest Automated Decision. In: *The Digital Constitutionalist* [online]. 2022 [cit. 2024-02-20]. Available at: https://digi-con.org/the-right-to-contest-automated-decisions/.

60 Some approaches include Fairness in Design proposed by Zhang et al. proposes ensuring ethical AI (See ZHANG, J. et al. Fairness in Design: a Framework for Facilitating Ethical Artificial Intelligence Designs. *International Journal of Crowd Sciences* [online]. 2023, Vol. 7, No. 1, pp. 32–39 [cit. 2024-02-20]. Available at: https://doi.org/10.26599/IJCS.2022.9100033; or Accountability in Design defined by VASSILAKOPOULOU, P. et al. Sociotechnical Approach for Accountability by Design in AI Systems. In: *Twenty-Eighth European Conference on Information Systems: Research-in-Progress Papers* [online]. 2020, pp. 1–8 [cit. 2024-02-20]. Available at: https://aisel.aisnet.org/ecis2020_rip/12/?utm_source=aisel.aisnet.org%2Fecis2020_rip%2F12&utm_medium=PDF&utm_campaign=PDFCoverPages.

61 OLSEN et al., *c. d.*, p. 24.

62 Human administrator who signs off the final decision.

63 OLSEN et al., *c. d.*, p. 25.

64 HANDRLICA, J. et al. Forum shopping in regulatory sandboxes and the perils of experimental law-making. *Juridical Tribune* [online]. 2023, Vol. 3, No. 3, pp. 408–426 [cit. 2024-02-26]. Available at: https://www.tribunajuridica.eu/arhiva/An13v3/5.%20Handrlica,%20Sharp,%20Nespor.pdf.

compliance of an AADM's essential requirements i.e., transparency and explicability, fairness, and potentially even accountability. This is also stipulated in the proposed regulation on AI as explained below.

As of the publication date of this article, the status of the European regulation on AI (i.e., the regulation of the European Parliament and of the Council laying down harmonised rules on Artificial Intelligence) (AI Act) remains uncertain regarding its adoption by the European Parliament and what the specific wording of it will entail in its final form. However, according to the available information, the AI Act plans to adopt some of the above said proposals.

The general idea behind AI act is to divide different use cases of AI on a risk-based approach into 4 categories (i) unacceptable risk;[65] (ii) high risk; (iii) limited risk; and (iv) minimal risk., whereas the said proposals are associated mainly with the high-risk AI systems (the HRAIS).

The AI Act proposes mechanisms ensuring the mitigation of risk associated with HRAIS, such as the obligation to establish a risk management system, ensuring quality of testing data, accuracy, robustness, security, and of course transparency and human oversight. As the proposal of the AI Act stipulates, any HRAIS should be designed by transparency ensuring the ability of users to easily interpret systems' outputs thus justifying its decisions. Qualified transparency is further ensured, as proposed above, by the obligation to design and develop HRAIS ensuring effective human oversight in order to asses risk to health, safety, or fundamental rights.[66] Furthermore the AI Act imposes obligations on the Member States to develop a regulatory sandbox for the purpose of testing development, testing and validation of innovative AI models together with safeguards in place when processing personal data for such development.

In answering the question "When is an AI system considered to be high-risk?", Article 6 of AI Act stipulates that, all AI systems referred to in Annex III are to be considered as HRAIS. But a closer look to the proposed AI Act shows, that not all AADM models are considered as HRAIS.

In a proposed draft, the said annex outlines various use cases including the evaluation of eligibility of public assistance benefits and services[67] or the use for migration and asylum proceedings,[68] all falling under the umbrella of administrative decision-making. However, there is notable absence of a general provision recognizing AADM models as HRAIS as opposed to every judicial decision-making. The AI Act states that *"researching and interpreting facts and the law and in applying the law to a concrete set of facts"* by judicial authority is considered as HRAIS,[69] yet this designation doesn't extend to public authorities.[70]

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65 See Title II of the AI Act; This includes techniques unconsciously distorting humans' behaviour or exploiting vulnerabilities of specific groups, social scoring techniques or real-time remote biometric identification.

66 See Chapter 2 of the ibid.

67 See Annex III, para. 5(a) of the ibid.

68 See Annex III, para. 7 of the ibid.

69 See Annex III, para. 8 of the ibid.

70 According to the Amendments to the AI Act adopted by the European Parliament on 14 June 2023, said provision was subject to an amendment extending its impact to administrative bodies. But as the AI Act is currently subject to negotiation in a difficult legislative process, the final wording remains unclear.

This approach inadvertently overlooks other administrative procedures that significantly impact fundamental human rights, such as administrative misdemeanour proceedings. Consequently, it's imperative to expand the aforementioned general provision concerning judicial decision-making to encompass public administration bodies as well.

It is my standpoint, that maintaining human involvement in the decision-making process, with humans making the final decision before the issuance, helps alleviate accountability concerns, especially in a situation where the requirements for transparency and justification are met. However, the more decision-making relies on AI, the more challenging it becomes to evaluate the accountability of individual administrators. The future could usher in a broader understanding of AI, potentially reaching a level of familiarity akin to today's use of smartphones or computers. This evolution would guarantee that the accountability of individual administrators aligns with their knowledge, without imposing excessively burdensome pressure on them. Until that point, overcoming the current challenges in the landscape remains a formidable obstacle for the full implementation of automated models in public administration.

5. CONCLUDING REMAKRS

This article explored the black box phenomenon in the context of automated decision-making in public administration and challenges stemming thereof. In terms of law, my research indicated that the essential challenge is associated with the necessity to provide an AADM model capable of providing justification as prescribed by the law.

As was described in the first part, the existence of opacity within an AADM does not necessarily need to be perceived as a drawback. This article argues that the lack of comprehension is not an anomaly since we experience black boxes in our daily lives. However, this fact is not a cause for consolation, as there are important principles at stake.

With that in mind, this paper concludes that full transparency with no provided safeguards is an unstable trajectory. Such an approach might result in exposing weaknesses of any AADM model and thus simplifying bypassing its safeguards. Instead, it advocates for a model of qualified transparency ensuring its comprehensibility without compromising legitimate interests in every AADM model. This type of transparency also meets with the legal imperatives of a decision-making requiring accountability of a public administration and a qualified form of explicability of decision that is its justification. Unfortunately, the European legislation on AI in development shows, that the said is ensured only to some degree.

The question of accountability remains a challenge as an AADM model might issue an unfair biased decision and thus discriminating one individual over another. I argue that even a meticulously designed AADM does not ensure that the model won't evolve in a discriminatory decision-maker. Therefore, I advocate for mechanisms ensuring fresh human inputs into such model and careful approach when implementing. As an example, might work models proposed by Olsen et al. At the same time, I argue that the emphasis on subjecting an AADM model to a regulatory sandbox has the potential to ensure its safety before integration.

It is without a doubt that the range and the complexity of AI in decision-making associates with different levels of inherent dilemmas. While certain problems are more straightforward to address, others pose significantly greater challenges. As the current model is a "fine-tuned system" with checks and balances in play the introduction of AI changes the game dramatically.

Addressing immediate challenges without considering their underlying causes provides only a temporary resolution. The suggested discourse on transitioning from the current human-centric public administration model to a fully automated system needs to be comprehensive, especially given the uncharted nature of AI.

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PROCEDURAL FAIRNESS AS STEPPING STONE FOR SUCCESSFUL IMPLEMENTATION OF ALGORITHMIC DECISION-MAKING IN PUBLIC ADMINISTRATION: REVIEW AND OUTLOOK[1]

SVEN HOEPPNER, MARTIN SAMEK

Abstract: Algorithmic decision-making (ADM) is becoming more and more prevalent in everyday life. Due to their promise of producing faster, better, and less biased decisions, automated and data-driven processes also receive increasing attention in many different administrative settings. However, as a result of human mistakes ADM also poses the threat of producing unfair outcomes. Looming algorithmic discrimination can undermine the legitimacy of administrative decision-making. While lawyers and lawmakers face the age-old question of regulation, many decision-makers tasked with designing ADM for and implementing ADM in public administration wrestle with harnessing its advantages and limiting its disadvantages. "Algorithmic fairness" has evolved as key concept in developing algorithmic systems to counter detrimental outcomes. We provide a review of the vast literature on algorithmic fairness and show how key dimensions alter people's perception of whether an algorithm is fair. In doing so, we provide entry point into this literature for anybody who is required to think about algorithmic fairness, particularly in an public administration context. We also pinpoint critical concerns about algorithmic fairness that public officials and researchers should note.

Keywords: algorithmic decision-making; administration; procedural fairness; artificial intelligence

DOI: 10.14712/23366478.2024.24

1. INTRODUCTION

Algorithmic decision-making (ADM) increasingly shapes people's daily lives, albeit unbeknownst to many. However subtle, algorithms make important decisions not only in popularized contexts such as automated driving, selection of entertainment proposals on your favorite streaming platforms, and ChatGPT, but also in

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

potentially life-altering contexts such as hiring,[2] the legal system,[3] and also public administration.[4] Algorithms can be employed at almost every stage and branch of administration. Examples include the evaluation of claims for public benefits or the evaluation of publicly issued licenses for trade, weapons, or driving.

Employing ADM faces a trade-off. On the one hand, ADM can lead to faster and better decision outcomes.[5] For instance, in South Korea ADM was used to relocate ambulance units so that more people could receive emergency help within a five-minute time window of making an emergency call.[6] Algorithms can also reduce human biases in decision-making processes. For instance, they do not grow tired, have no agency, and are not distracted by emotional factors.[7] On the other hand, however, ADM often suffers from possible downsides in that (unfair) ADM systems can disparage certain members of society. Algorithms can decrease fairness.[8] For instance, ADM systems can systematically reinforce racial or gender stereotypes or marginalize minorities. But one example for such algorithmic discrimination is the – by now notorious – COMPAS algorithm, which disproportionally assigned a higher risk score of recidivism to black than to white defendants.[9] In the public administration context, ADM systems have also arbitrarily excluded citizens from food support programs, mistakenly reduced their disability benefits, or falsely accused them of fraud.[10]

Importantly, the negative biases of ADM are not a given. They result from human mistakes and are often unintended. First, human mistakes can occur in collecting and processing input data. When an algorithm learns from historical data about group features that is incomplete, unreliable, or biased, certain groups can be misrepresented by the data. This misrepresentation, in turn, can reproduce or exacerbate existing societal biases. Second, human mistakes can also occur in selecting, designing, specifying, and testing the algorithm. In such case an ADM system may perform fairly on some specific

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2 See e.g. ACIGKOZ, Y. – DAVIDSON, K. H. – COMPAGNONE, M. et al. Justice perceptions of artificial intelligence in selection. *International Journal of Selection and Assessment*. 2020, Vol. 28, No. 3, pp. 399–416; KÖCHLING, A. – WEHNER, M. C. Discriminated by an algorithm: a systematic review of discrimination and fairness by algorithmic decision-making in the context of HR recruitment and HR development. *Business Research*. 2020, Vol. 13, No. 3, pp. 1–54.

3 See e.g. CHOULDECHOVA, A. Fair Prediction with Disparate Impact: a Study of Bias in Recidivism Prediction Instruments. *Big Data*. Vol. 5, No. 2, pp. 153–163.

4 See AlgorithmWatch. *Automating Society: Taking Stock of Automated Decision-Making in the EU* [online]. Bertelsmann Stiftung, 2019 [cit. 2023-12-14]. Available at: https://algorithmwatch.org/de/wp-content/uploads/2019/02/Automating_Society_Report_2019.pdf.

5 See LEPRI, B. et al. Fair, Transparent, and Accountable Algorithmic Decision-making Processes: the Premise, the Proposed Solutions, and the Open Challenges. *Philosophy and Technology*. 2018, Vol. 31, No. 4, pp. 611–627.

6 See NAM, T. Do the right thing right! Understanding the hopes and hypes of data-based policy. *Government Information Quarterly*. 2020, Vol. 37, No. 3, pp. 1–10.

7 LEE, M. K. Understanding perception of algorithmic decisions: fairness, trust, and emotion in response to algorithmic management. *Big Data & Society*. 2018, Vol. 5, No. 1, pp. 1–16.

8 BAROCAS, S. – SELBST, A. D. Big data's disparate impact. *California Law Review*. 2016, Vol. 104, No. 1, pp. 671–729.

9 CHOULDECHOVA, *c. d.*

10 RICHARDSON, R. et al. Litigating Algorithms 2019 US Report: New Challenges to Government Use of Algorithmic Decision Systems. In: *AINow* [online]. 17. 9. 2029 [cit. 2024-01-02]. Available at: https://ainowinstitute.org/publication/litigating-algorithms-2019-u-s-report-2.

tasks but discriminate unfairly on others.[11] Third, transferring decision authority for sensitive issues from humans to ADM systems may in some circumstances be a human mistake in the first place.

How to harness the advantages while limiting the disadvantages of ADM in the administration context? How to constrain implementation difficulties that give rise to the downside of ADM? Avoiding each and every human mistake in setting up ADM systems is impossible. In light of these implementation difficulties, lawyers evoke their favorite answer: regulation. The European Union legislators are currently overwhelmed with the proposition of the AI Act,[12] discussing the uses of automation, algorithms, large language models and similar technologies in excruciating detail. The soon-to-be-adopted AI Act, upon which the EU Trialogue recently reached a political agreement,[13] also touches on the subject of AI and algorithm usage in public administration. In its explanatory memorandum section, the AI Act states that one of its main goals is to ensure a high level of protection of fundamental rights, among others, non-discrimination, the right to a fair process and also the general principle of good administration.[14] The newly adopted text, for example, bans social scoring and biometric categorization using data such as sexual orientation or religion. In some cases the AI Act also prohibits predictive policing for individuals.[15] There are also exemptions for law enforcement with prior judicial authorization and only for specific types of crimes.[16] Regarding the use of AI in public administration, the AI act specifically mentions employing systems similar to credit scoring in applications for social assistance, benefits, and services.[17] Since these ADM systems may be used to determine whether such benefits and services should be denied, reduced, revoked, or reclaimed by authorities they may have a significant impact on persons' livelihood and may infringe their fundamental rights. Therefore, under the AI Act such ADM systems automatically categorize them as "high-risk", which is the second-highest tier and the highest tier that is not prohibited.[18]

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[11] See VEALE, M. – BINNS, R. Fairer machine learning in the real world: mitigating discrimination without collecting sensitive data. *Big Data & Society*. 2017, Vol. 4, No. 2, pp. 1–17; LEPRI, *c. d.*; EUBANKS, V. Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor. New York: St. Martin's Press, 2018; KÖCHLING – WEHNER, *c. d.*

[12] See Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act), COM(2021) 206 final, 2021/0106(COD).

[13] See Commission welcomes political agreement on Artificial Intelligence Act. In: *European Commission: Press release* [online]. 11. 12. 2023 [cit. 2024-01-29]. Available at: https://digital-strategy.ec.europa.eu/en/news/commission-welcomes-political-agreement-artificial-intelligence-act.

[14] See Explanatory memorandum, article 3.5 of Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act), COM(2021) 206 final, 2021/0106(COD).

[15] See Artificial Intelligence Act: deal on comprehensive rules for trustworthy AI. In: *News: European Parliament: Press releases* [online]. 9. 12. 2023 [cit. 2024-01-29]. Available at: https://www.europarl.europa.eu/news/en/press-room/20231206IPR15699/artificial-intelligence-act-deal-on-comprehensive-rules-for-trustworthy-ai.

[16] Ibid.

[17] Ibid. rec. (37).

[18] According to the AI Act proposal, there are two main categories of AI systems: prohibited and high-risk. The rest of AI systems are either under "certain AI systems" with specific obligations, or are out of scope of the AI Act. See point 5.2 of the explanatory memorandum.

In legal academia the AI Act has initially been met with less than lukewarm enthusiasm.[19] Legal scholarship has since spent much attention to debating *to what extent* new technologies can fruitfully be employed in administration, *how* legal administration can employ ADM in various tasks,[20] and which legal challenges their use brings forth.[21]

In ADM research, by contrast, one concept has become the key element in developing algorithmic systems to counter detrimental outcomes. That concept is algorithmic fairness.[22] Consequently algorithmic fairness has also become endorsed by as one of the main principles for trustworthy AI by the OECD[23] and the European Commission[24]. It has also been featured in more than 80% of guidelines for AI ethics.[25]

Much like abstract and open legal terms need continuous interpretive completion, the concept of algorithmic fairness requires more than just a technological solution. Employing algorithmic fairness in designing, implementing, and relying upon an ADM system requires a sophisticated empirical understanding of when, why, and how people perceive an algorithmic decision as fair or unfair. Only if algorithm-subjective individuals perceive the algorithmic decision as fair will they accept it as legitimate and, therefore, empirical insights into people's fairness perceptions are a *conditio sine qua non* for human-centric AI that informs developers entrusted with designing and users entrusted with implementing ethical ADM systems. Therefore, the social sciences have a huge potential to contribute to research on societal consequences of ADM, thus informing policymaking.[26]

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19 See e.g. VEALE, M. – BORGESIUS, F. Z. Demystifying the Draft EU Artificial Intelligence Act: analysing the good, the bad, and the unclear elements of the proposed approach. *Computer Law Review International*. Vol. 22, No. 4, pp. 97–112.

20 See e.g. LIU, X. – LORINI, E. – ROTOLO, A. – SARTOR, G. Modelling and Explaining Legal Case-based Reasoners through Classifiers. *Frontiers in Artificial Intelligence and Applications, in corso di stampa*. 2022, pp. 1–13.

21 In a nutshell, this line of research concentrates *on the procedure*. Scholars only recently started noticing the importance of possible attitude and behaviour changes that result from the use of new technologies. See e.g. COGLIANESE, C. Administrative Law in the Automated State. *Daedalus*. 2021, Vol. 150, No. 3, pp. 104–120.

22 HUTCHINSON, B. – MITCHELL, M. 50 years of test (un)fairness: lessons for machine learning. In: *FAT* '19: Proceedings of the ACM Conference on Fairness, Accountability, and Transparency*. New York: Association for Computing Machinery, 2019, pp. 49–58.

23 Recommendation of the Council on Artificial Intelligence. In: *OECD Legal Instruments* [online]. [cit. 2024-01-08]. Availabe at: https://legalinstruments.oecd.org/en/instruments/oecd-legal-0449, also see: https://oecd.ai/en/ai-principles.

24 Ethics guidelines for trustworthy AI. In: *European Commission: Shaping Europe's digital future* [online]. 8. 4. 2019 [cit. 2024-01-08]. Available at: https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai.

25 JOBIN, A. – IENCA, M. – VAVERNA, E. The global landscape of AI ethics guidelines. *Nature Machine Intelligence*. 2019, Vol. 1, No. 9, pp. 389–399.

26 Compare BARABAS, CH. et al. Studying Up: Reorienting the study of algorithmic fairness around issues of power. In: *Proceedings of the ACM Conference on Fairness Accountability, and Transparency*. New York: Association for Computing Machinery, 2020, pp. 167–176; SLOANE, M. – MOSS, E. AI's social sciences deficit. *Nature Machine Intelligence*. 2019, Vol. 1, No. 8, pp. 330–331; KIESLICH, K. – KELLER, B. – STARKE, CH. Artificial intelligence ethics by design: evaluating public perception on the importance of ethical design principles of artificial intelligence. *Big Data & Society*. 2022, Vol. 9, No. 1, pp. 1–19. By drawing on an empirical understanding of citizens' fairness perceptions, algorithmic fairness can contribute to answering the call for a "society-in-the-loop" approach that embeds societal values in the design of ADM systems. See RAHWAN, I. Society-in-the-loop: programming the algorithmic social contract. *Ethics and Information Technology*. 2018, Vol. 20, No. 1, pp. 5–14;

In this paper, we want to inform both regulators of ADM systems and decision-makers in public administration tasked with deploying algorithms into administrative decision-making about main topics and main observations in ADM research on fairness perceptions regarding algorithmic decisions. The literature on this topic is vast, has witnessed a tremendous growth in the past decade, and continuous to strongly expand.[27] Our survey of the literature can, therefore, not be conclusive and our view on and selection of the literature is certainly biased by our own research interests. We intend this paper to serve as a mere entry point – or better yet: flood gate – to essential insights about people's perceptions of algorithmic fairness. In the context of new technologies in administration and administrative law, we contribute to the current discussion by providing a taxonomy of which features are crucial for fairness perceptions of ADM systems, which we hope will inform deployment of ADM systems in administration.

As an organizing concept, this paper relies on the topic procedural fairness as it has been studied in behavioral economics and organizational psychology.[28] In contrast to distributive or outcome-based fairness, procedural fairness in behavioral economics refers to the sensitivity of individuals towards differences in expected payoffs. Procedural fairness differs from other types of fairness, such as distributive fairness, in that it focuses on the fairness attributes of the decision-making process and the perceived fairness of the outcomes based on the procedures followed. Individuals who care about procedural fairness take additional factors of the decision-making process into account.[29] Here, we focus on the accuracy of algorithmic decisions, their transparency, and to what extent addressees of ADM systems have agency over the decision procedure and the outcome as core elements of the (algorithmic) allocation procedure.

This paper proceeds as follows. The next section will differentiate different fairness approaches that have been used in ADM research about fairness perceptions. The further sections then discuss the importance of (1) the accuracy of algorithmic decisions, (2) their transparency, and (3) to what extent addressees of ADM systems have agency over the

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GERDON, F. – BACH, R. L. – KERN, CH. – KREUTER, F. Social impacts of algorithmic decision-making: a research agenda for the social sciences. *Big Data & Society*. 2022, Vol. 9, No. 1, pp. 1–13.

[27] Other authors have compiled fantastic and much more detailed surveys of this literature. We borrow heavily from: STARKE, CH. – BALEIS, J. – KELLER, B. – MARCINKOWSKI, F. Fairness perceptions of algorithmic decision-making: a systematic review of the empirical literature. *Big Data & Society*. 2022, Vol. 9, No. 2, pp. 1–16; KORDZADEH, N. – GHASEMAGEI, M. Algorithmic bias: review, synthesis, and future research directions. *European Journal of Information Systems*. 2022, Vol. 31, No. 3, pp. 388–409; WANG, X. – ZHANG, Y. – ZHU, R. A brief review on algorithmic fairness. *Management System Engineering*. 2022, Vol. 1, No. 7, pp. 1–13.

[28] Of course, the idea of procedural fairness also matters strongly in administrative law, which on general level mostly comprises a fair hearing rule and a rule against bias. For more on procedural fairness and its elements, see e.g. Recommendation CM/Rec(2007)7 of the Committee of Ministers to member states on good administration. Here, however, we are not interested in discussing when there is a duty to accord procedural fairness or what procedural fairness entails. Rather, we are interested in when people evaluate an administrative decision (by an algorithm) that allocates resources as fair. Therefore, we rely on the concept of procedural fairness as investigated in behavioral economics.

[29] Compare TRAUTMANN, S. T. Procedural fairness and equality of opportunity. *Journal of Economic Surveys*. 2023, Vol. 37, No. 5, pp. 1697–1714; KURZ, V. – ORLAND, A. – POSADZY, K. Fairness versus efficiency: how procedural fairness concerns affect coordination. *Experimental Economics*. 2018, Vol. 21, pp. 601–626; BOLTON, G. E. – BRANDTS, J. – OCKENFELS, A. Fair procedures: evidence from games involving lotteries. *The Economic Journal*. 2005, Vol. 115, No. 506, pp. 1054–1076.

decision procedure and the outcome for people's algorithmic fairness perceptions. The last section discusses the findings in the context of public administration and regulation, points out limitations, hints at possible venues for future research, and concludes.

2. ALGORITHMIC PROCEDURAL FAIRNESS

DIFFERENTIATION OF FAIRNESS APPROACHES

There appears to be no clear consensus on a precise definition of algorithmic fairness to date.[30] The stark heterogeneity among notions of algorithmic fairness is welcome, as it allows the concept to grow and evolve. The downside, for now, is that some terminological clarification is required, if only to avoid human errors in designing, specifying, and implementing fair ADM systems. This is, in fact, not dissimilar to typical legal tasks.

Algorithmic fairness generally is a consequentialist concept. In its very core, it entails that algorithmic decisions should not lead to unjust, discriminatory, or disparate consequences.[31] The literature distinguishes two broad approaches to algorithmic fairness. First, one part of the literature employs an axiomatic approach to algorithmic fairness and formalizes fairness criteria mathematically.[32] Second, another part of the literature draws on fairness concepts advanced in philosophy and the social sciences and applies them to questions of algorithmic fairness.[33]

The latter approach to algorithmic fairness can be further differentiated. On the one hand are researchers concerned with algorithmic predictors of algorithmic fairness, i.e., how an ADM procedure's technical design affects people's fairness perceptions. On the other hand are researchers who investigate human predictors of algorithmic fairness, i.e., what socio-economic, cultural, or other features of individuals affected by an ADM procedure determine their fairness perceptions about the ADM system. In what follows we intentionally bypass the latter because we assume that administrative services are extended to a broad public such that it may be too costly or otherwise difficult to cater to a heterogeneity of human predictors. Note however that decision-makers in public administration tasked with designing and implementing ADM systems should account

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[30] SRIVASTAVA, M. – HEIDARI, H. – KRAUSE, A. Mathematical notions vs. Human perception of fairness: A descriptive approach to fairness for machine learning. In: *Proceedings of the ACM SIGKDD International Conference on Knowledge Discovery and Data Mining*. New York: Association for Computing Machinery, 2019, pp. 2459–2468.

[31] See SHIN, D. – PARK, Y. J. Role of fairness, accountability, and transparency in algorithmic affordance. *Computers in Human Behavior*. 2019, Vol. 98, No. C, pp. 277–284.

[32] See e.g. GAJANE, P. – PECHENIZKIY, M. On Formalizing Fairness in Prediction with Machine Learning. In: *arXiv* [online]. 2017 [cit. 2023-12-13]. Available at: http://arxiv.org/abs/1710.03184; VERMA, S. – RUBIN, J. Fairness Definitions Explained. In: *Proceedings of the International Workshop on Software Fairness*. New York: Association for Computing Machinery, 2018, pp. 1–7; WANG – ZHANG – ZHU, *c. d.*; ŽLIOBAITĖ, I. Measuring discrimination in algorithmic decision making. *Data Mining and Knowledge Discovery*. 2017, Vol. 31, No. 4, pp. 1060–1089.

[33] Seminal for this approach is BINNS, R. Fairness in machine learning: Lessons from political philosophy. *Proceedings of Machine Learning Research*. 2018, No. 81, pp. 149–159; BINNS, R. What can political philosophy teach us about algorithmic fairness? *IEEE Security & Privacy*. 2018, Vol. 16, No. 3, pp. 73–80.

for human predictors of algorithmic fairness if the ADM system provides a service to a specific subset of the population that can be characterized by specific features that matter for the fairness perception of individuals under the ADM system.

GENERAL OBSERVATIONS ON ALGORITHMIC PROCEDURAL FAIRNESS

Generally, fairness in is a crucial factor when evaluating algorithms.[34] However, research investigating people's general notions of algorithmic fairness yields mixed results.[35] Sometimes respondents perceive the very idea of ADM for important decisions based on past data unfair.[36] Other times participants argue that algorithms are by definition impartial.[37]

In additional to the mixed results on directionality, general fairness perceptions about algorithmic decision-making are highly dependent on the context. Some studies revealed that algorithmic fairness is perceived as more problematic in some domains than in others.[38] For instance, discrimination by ADM in housing, job recommendations, health care, or finance is viewed as more harmful than in music or movie recommendations.[39] Also, less complex algorithmic tasks elicited higher fairness perceptions than more complex ones.[40]

ACCURACY AND ALGORITHMIC FAIRNESS

Most studies go beyond people's general perception of algorithmic fairness and investigate how fairness perceptions are related to specific attributes of the

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[34] See e.g. BANKINS, S. – FORMOSA, P. – GRIEP, Y. – RICHARDS, D. AI decision making with dignity? Contrasting workers' justice perceptions of human and AI decision making in a human resource management context. *Information Systems Frontiers*. 2022, Vol. 3, No. 2, pp. 1–19; ZHOU, J. – VERMA, S. – MITTAL, M. – CHEN, F. Understanding Relations Between Perception of Fairness and Trust in Algorithmic Decision Making. In: *Proceedings of the International Conference on Behavioral and Social Computing (BESC 2021)*. IEEE, 2021, pp. 1–5.

[35] See, e.g. DODGE, J. – LIAO, V. Q. – ZHANG, Y. – BELLAMY, R. K. E. – DUGAN, C. Explaining models: an empirical study of how explanations impact fairness judgment. In: *Proceedings of the International Conference on Intelligent User Interfaces*. New York: Association for Computing Machinery, 2019, pp. 275–285; SHIN – PARK, *c. d*.

[36] See BINNS, R. – VAN KLEEK, M. – VEALE, M. – LYNGS, U. – ZHAO, J. – SHADBOLT, N. It's Reducing Human Being to a Percentage: Perceptions of Justice in Algorithmic Decisions. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. New York: Association for Computing Machinery, 2018, pp. 1–14.

[37] See LEE, M. K. – RICH, K. Who Is Included in Human Perceptions of AI?: Trust and Perceived Fairness around Healthcare AI and Cultural Mistrust. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. New York: Association for Computing Machinery, 2021, pp. 1–14.

[38] HANNAN, J. – CHEN, H.-Y. W. – JOSEPH, K. Who Gets What According to Whom? An Analysis of Fairness Perceptions in Service Allocation. In: *Proceedings of the 2021 AAAI/ACMConference on AI, Ethics, and Society*. New York: Association for Computing Machinery, 2021, pp. 555–565.

[39] SMITH, J. – SONBOLI, N. – FIESLER, C. – BURKE, R. Exploring User Opinions of Fairness in Recommender Systems. In: *CHI'20 Workshop on Human-Centered Approaches to Fair and Responsible AI*. New York: Association for Computing Machinery, 2020, pp. 1–4.

[40] HSU, S. – LI, T. W. – ZHANG, Z. – FOWLER, M. – ZILLES, C. – KARAHALIOS, K. Attitudes Surrounding an Imperfect AI Autograder. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. New York: Association for Computing Machinery, 2021, pp. 1–15.

algorithmic decision-making process. One element that has garnered a lot of attention is decision accuracy. Most if not all ADM systems are imperfect, just as human decision-makers. And, after all, high decision accuracy also strengthens decision consistency. How does ADM accuracy affect fairness perceptions?

Srivastava et al. use recidivism risk prediction and skin cancer risk predictions as examples for and ADM evaluation and elicit people's fairness choices. Interestingly, their data suggest that demographic parity best matched the fairness preferences of most participants, i.e., people favored algorithms aiming to equalize the positive rate across different groups. For instance, if ten percent of all applicants to a university get admitted, this rate should be equal for all gender groups. Regarding the issue of accuracy versus inequality, more importantly, the authors presented participants with three algorithms, each offering a different trade-off between accuracy and equality, and asked them to choose the one they consider ethically most desirable. For the case of medical risk prediction a high-stakes scenario described predicting the risk of skin cancer whereas a low-risk scenario described predicting the severity of flu symptoms. Similarly, for the case of recidivism risk prediction a high-stakes scenario describes that predictions are used to determine jail time whereas a low-stakes scenario describes that predictions are used to set bail amounts. Regardless of the decision context, the authors find that in high-stakes situations respondents attached a higher importance to accuracy than to inequality and vice versa.[41]

Three other studies inform the relationship between perceived fairness and decision accuracy. In another high-stakes context, i.e., an ADM system to assist child abuse hotline call workers in their screening decisions (child maltreatment prediction), Cheng et al. find that participants are willing to accept disparities in accuracy across groups than give up overall accuracy.[42] The results of Hsu et al. also highlight that accurate ADM is perceived as fairer than inaccurate ADM.[43] While their prediction context, i.e., automated college-level grading, may be viewed as low-stake, college grades and how accurately an ADM system decides about them are not low-stake for college students. Finally, in a tax fraud detection context, the results of Kieslich et al. suggest that their German participants weigh fairness and accuracy as equally important.[44]

Beyond accuracy in general, algorithmic fairness perceptions can be determined by the source of inaccuracy. And ADM system with an unbiased accuracy of 90% overall still suffers from 10% false positives and 10% false negatives. When an algorithm decided whether to grant bail to criminal defendants, participants of Harrison et al. were asked to decide about pairwise trade-offs between an ADM system that equalized one potentially desirable model property and that let another property vary across different racial groups and an ADM system that did the opposite. Harrison et al. observe that

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41 SRIVASTAVA – HEIDARI – KRAUSE, *c. d.*

42 CHENG, H.-F. – STAPLETON, L. – WANG, R. – BULLOCK, P. – CHOULDECHOVA, A. – WU, Z. S. S. – ZHU, H. Soliciting Stakeholders' Fairness Notions in Child Maltreatment Predictive Systems. In: *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems*. New York: Association for Computing Machinery, 2021, pp. 1–17.

43 HSU – LI – ZHANG – FOWLER – ZILLES – KARAHALIOS, *c. d.*

44 KIESLICH – KELLER – STARKE, *c. d.*

participants favor an algorithm that equalizes the false positive rate between groups over one that equalizes general accuracy.[45]

Yet another strand in this line of research focuses on how specific input features of an ADM system relate to its perceived fairness. Grgić-Hlača et al. use recidivism risk estimation and predictive policing as scenarios for their investigation. The authors focus on how the perceived fairness of an input feature is affected by additional knowledge about a desirable effect, i.e., an increase in accuracy, and an undesirable effect, i.e., an increase of disparity. Accordingly, they can define three measure of input-based process fairness: (1) feature-apriori fairness, i.e., a feature is perceived as fair, independent of its effect on the outcome; (2) feature-accuracy fairness, i.e., a feature is perceived as fair if it increases the accuracy of an algorithm; and (3) feature-disparity fairness, i.e., a feature is perceived as fair even if it increases disparity in the outcomes of an algorithm. Regardless of the decision scenarios, participants evaluated feature-accuracy fairness as most important, followed by feature-a-priori fairness, and feature-disparity fairness.[46] Similarly, Albach and Wright find that relevance of an input feature but also increases accuracy are the essential characteristics when deciding whether it is fair to use a feature in an ADM system.[47]

TRANSPARENCY AND ALGORITHMIC FAIRNESS

Transparency is central to the information dimension of procedural fairness. Without transparency other crucial aspects such as consistency, accountability, and revisability/revocability will be extraordinarily difficult to obtain. From our review regarding algorithmic procedural fairness, however, the effect of transparency on fairness perceptions appears to be understudied. Notable exceptions are Wang, who finds that algorithmic transparency increased perceptions of fairness, but not to an extent that algorithms are perceived to be preferable to human decision-makers[48], and Wang et al. who additionally observe that different degrees of transparency have no differential effect on perceived algorithmic fairness.[49] The reason for this lack of research may be inherent in the topic under investigation. Predictive systems often rely on sophisticated

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45 HARRISON, G. – HANSON, J. – JACINTO, CH. – RAMIREZ, J. – UR, B. An Empirical Study on the Perceived Fairness of Realistic, Imperfect Machine Learning Models. In: *Proceedings of the ACM Conference on Fairness, Accountability, and Transparency*. New York: Association for Computing Machinery, 2020, pp. 392–402.

46 GRGIĆ-HLAČA, N. – ZAFAR, M. B. – GUMMADI, K. P. – WELLER, A. Beyond Distributive Fairness in Algorithmic Decision Making: Feature Selection for Procedurally Fair Learning. In: *Proceedings of the 32nd AAAI Conference on Artificial Intelligence*. New York: Association for Computing Machinery, 2018, pp. 51–60.

47 ALBACH, M. – WRIGHT, J. R. The Role of Accuracy in Algorithmic Process Fairness Across Multiple Domains. In: *Proceedings of the ACM Conference on Economics and Computation*. New York: Association for Computing Machinery, 2021, pp. 29–49.

48 WANG, A. J. Procedural Justice and Risk-Assessment Algorithms. In: *SSRN* [online]. 2018 [cit. 2024-01-04]. Available at: https://ssrn.com/abstract=3170136.

49 WANG, R. – HARPER, M. F. – ZHU, H. Factors Influencing Perceived Fairness in Algorithmic Decision-Making: Algorithm Outcomes, Development Procedures, and Individual Differences. In: *Proceedings of the CHI Conference on Human Factors in Computing Systems*. New York: Association for Computing Machinery, 2020, pp. 1–14.

yet opaque machine learning models, which do not – or: hardly – facilitate an understanding of the general public, i.e., lay people who most often are subjected to a decision and who are study participants, how or why a given decision was arrived at.

Related to ex-ante transparency about the ADM system is providing information about input features, the decision-making process, and other reasons for the specific decision of an algorithm ex-post, i.e., after an algorithmic decision is made. Such ex-post transparency can be achieved through explanations for a decision. In fact, the European Union's General Data Protection Regulation (GDPR)[50] requires organizations deploying certain predictive systems to provide "meaningful information about the [decision] logic" to individuals affected by those predictive systems.[51] However, academic authors cannot agree whether "meaningful information" shall be interpreted without prejudice as a right to information. Selbst and Powles provide an informative summary and critical overview of this debate.[52] This right also is and will be further developed in practice with rulings of Court of Justice of the European Union, such as the case C634/21 which interpreted the provision in a context of an ADM used in a third party decision.[53] Furthermore, some authors think that the GDPR does not effectively regulate the use of predictive models, especially since these models can be trained on anonymized data, which falls completely out of scope of the GDPR.[54] As for the AI Act proposal, the transparency is covered under Article 4a on the general level[55] and especially for high-risk AI systems under Article 13[56] which in its current form seems very permitting as a right. The transparency is a necessary requirement for human oversight mentioned in our concluding remarks.

The set of studies that investigated the relation of explanations and perceived algorithmic fairness is surprisingly large, given that our reading of the literature suggests that transparency and algorithmic fairness remains somewhat of a research gap. As a general result, explanations for an algorithmic decision increase people's perception of procedural fairness. This is good news as administrative decisions, human or algorithmic, need to come with motivated explanations. By contrast, perceptions of interpersonal and

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50 Regulation (EU) 2016/679 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (GDPR).

51 See Article 13, para. 1, let. f) of the GDPR.

52 SELBST, A. D. – POWLES, J. Meaningful information and the right to explanation. *International Data Privacy Law*. 2017, Vol. 7, No. 4, pp. 233–242. Available online in: *Oxford Academy* [online]. [cit. 2024-02-21]. Available at: https://doi.org/10.1093/idpl/ipx022.

53 In Judgement of the Court from 7 December 2023, OQ v. Land Hessen, (SCHUFA Holding AG), C634/21, ECLI:EU:C:2023:957 the court interpreted Article 22 of the GDPR in such way, that the article is applicable for situations where the information from ADM system is used to influence a decision of a third party.

54 MÜHLHOFF, R. Predictive privacy: Collective data protection in the context of artificial intelligence and big data. *Big Data & Society* [online]. 2023, Vol. 10, No. 1 [cit. 2023-01-04]. Available at: https://doi.org/10.1177/20539517231166886.

55 Article 4 of AI Act proposal states that: *"AI systems shall be developed and used in a way that allows appropriate traceability and explainability while making humans aware that they communicate or interact with an AI system as well as duly informing users of the capabilities and limitations of that AI system and affected persons about their rights."*

56 Article 13 of the AI Act proposal states that *"high-risk AI systems shall be designed and developed in such a way to ensure that their operation is sufficiently transparent to enable providers and users to reasonably understand the system's functioning"*.

distributive fairness do not seem to be affected by the provision of explanations.[57] The results are very nuanced, however. For instance, the results of Shulner-tal et al. suggest that providing some kind of explanation contributes to participants' understanding of the outcome. Yet, while explanations provided by the system are important for increasing participants' perception of fairness, their fairness perceptions mainly depend on the decision of the system. In other words, the effect of providing explanations can get overwritten by other characteristics of the ADM.[58] Moreover, Lee et al. find that the effect of outcome explanations for perceived algorithmic fairness may well be context-dependent. When outcome explanations helped participants in their qualitative study to understand biased outcome distributions, perceived fairness decreased. By contrast, when outcome explanations for helped them to understand rather equal distributions, perceived fairness increased.[59]

Other studies investigate the effects of different styles of explanations for people's algorithmic fairness perceptions. Binns et al. provide respondent's with five application contexts (personal financial loan, promotion at work, car insurance premiums, overbooking of airline flights, and freezing of bank accounts) and created different scenarios in which an algorithmic decision negatively affected one individual. They varied the scenarios regarding whether explanation for the negative decision is provided and, if so, also varied the explanation using four different explanation styles: (1) presenting an algorithm's input variables and a quantitative measure of their influence; (2) for each input variable used in a decision, providing a sensitivity analysis that shows how much the value of that variable would have to differ in order to change the decision; (3) presenting a case from the model's training data which is most similar to the decision being explained; and (4) presenting aggregate statistics on the decisions for people in the same demographic categories as the decision-subject, such as age, gender, income level or occupation. The results are not as straight-forward as one would hope, but rather depend on the experimental design. On the one hand, participants strongly engaged with the details of each explanation (when discussing a case in the qualitative part of the study). This occurred within-subjects, i.e., when participants were presented with different explanation styles. In particular, case-based explanation styles impacted fairness perceptions negatively, especially compared to sensitivity-based explanation styles. On the other hand, however, in between-subjects designs, i.e., when participants are exposed to only one explanation style across multiple scenarios, these explanation effects largely disappeared.[60] Similar results have been found in a recidivism risk con-

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[57] See SCHLICKER, N. – LANGER, M. – ÖTTING, S. K. – BAUM, K. – KÖNIG, C. J. – WALLACH, D. What to expect from opening up 'black boxes'? Comparing perceptions of justice between human and automated agents. *Computers in Human Behavior*. 2021, Vol. 122, No. 4, pp. 1–16.

[58] See SHULNER-TAL, A. – KUFLIK, T. – KLIGER, D. Fairness, explainability and in-between: Understanding the impact of different explanation methods on non-expert users' perceptions of fairness toward an algorithmic system. *Ethics and Information Technology*. 2022, Vol. 24, No. 1, pp. 1–13.

[59] See LEE, M. K. – JAIN, A. – CHA, H. J. – OJHA, S. – KUSBIT, D. Procedural justice in algorithmic fairness: Leveraging transparency and outcome control for fair algorithmic mediation. *Proceedings of the ACM on Human-Computer Interaction*. 2019, Vol. 3, No. CSCW, Art. 182, pp. 1–26.

[60] BINNS – VAN KLEEK – VEALE – LYNGS – ZHAO – SHADBOLT, *c. d.*

text, in that certain explanations are considered inherently less fair, while others can enhance people's confidence in the fairness of the algorithm.[61]

We think that one result from the literature deserve special attention, especially in a journal with a substantial audience with a legal background. Nyarko et al. study attitudes towards "blinding" algorithms. Many scholars, algorithm developers, and – not least of all – policymakers posit that algorithmic fairness requires excluding information about certain characteristics of individuals, such as their race or gender, as input variables, especially regarding minority groups. "Blinding" algorithms in this way is often conveyed as an unconditional ethical imperative, i.e., a minimal requirement of fair treatment, and any contrary practice is assumed to be morally and politically untenable.[62] However, excluding information about race or gender from algorithmic decisions can in fact lead to worse outcomes for racial minorities and women in some circumstances, which complicates the rationale for blinding. In a set of randomized studies, Nyarko et al find that people are generally averse to the use of sensitive information such as race and gender in algorithmic predictions of pretrial risk. They also find, however, that this preference for excluding sensitive information shifts in response to a relatively mild intervention, namely when respondents are provided with factually correct information about the possibility that this exclusion of sensitive input variables could lead to higher detention rates for black and female defendants, respectively.[63]

CONTROL, PARTICIPATION, OR AGENCY: VOICE AND REVOCABILITY

Thibaut and Walker developed the control model of procedural fairness: procedural fairness is a function of the degree of control over the decision that individuals receive. When individuals perceive to have more control over the processes that lead to decision outcomes ("process control") and the decision outcomes ("outcome control"), they perceive the results to be fairer.[64] Process control is the ability to influence what evidence or data is considered by the decision-maker, how that evidence is presented, and the rules by which the evidence is interpreted. In the realm of ADM, process control may include allowing individuals to determine input data or giving individuals the ability to influence the rules and logics of the algorithm itself. Outcome control refers to the ability to appeal or modify the outcome of a decision once it has been made and enables correctability and possible recourse against decisions that are

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[61] See DODGE – LIAO – ZHANG – BELLAMY – DUGAN, *c. d.*

[62] Compare KLEINBERG, J. – LUDWIG, J. – MULLAINATHAN, S. – RAMBACHAN, A. Algorithmic fairness. *AEA papers and proceedings*. 2018, Vol. 108, pp. 22–27.

[63] NYARKO, J. – GOEL, S. – SOMMERS, R. Breaking Taboos in Fair Machine Learning: An Experimental Study. In: *Proceedings of Equity and Access in Algorithms, Mechanisms, and Optimization*. New York: Association for Computing Machinery, 2021, pp. 1–11.

[64] THIBAUT, J. W. – WALKER, L. *Procedural justice: a psychological analysis*. New York: L. Erlbaum Associates, 1975. Also compare LIND, A. E. – LISAK, R. I. – CONLON, D. E. Decision Control and Process Control Effects on Procedural Fairness Judgments 1. *Journal of Applied Social Psychology*. 1983, Vol. 13, No. 4, pp. 338–350.

wrong or improper.[65] In the realm of ADM, outcome control will enable individuals to reject algorithmic decisions through appeal or by finding alternative outcomes.

Again, while there is recent recognition that this is an important area,[66] our reading of the literature suggests that the effect of control (or participation, or agency) on perceptions of algorithmic fairness remains relatively unexplored. One exception is the interview study of Hsu et al., who find that the discontent expressed by participants about the false negative rate and the subsequent decrease in fairness perceptions, could be mitigated by an appeal procedure to some extent.[67] In a set of vignette studies, the results of Sun and Tang also suggest that participants who have control over avoiding algorithmic discrimination on a booking website for airline flights increases perceived algorithmic fairness.[68] Finally, both process control and outcome also increased perceptions of algorithmic fairness in the interview study of Lee et al.[69]

3. DISCUSSION & CONCLUSION

As even more ADM system permeate public administration and society in general, decision-makers tasked with implementing ADM should be concerned about algorithmic fairness beyond the technical properties of a given machine learning model, if only to instill more acceptability by addressees of and legitimacy of ADM systems. Most technology-specific regulation aim at remedying potential downsides stemming from the interaction of technology and society.[70] In the ADM context, legislators have not been sleepy either. Intentionally or not, the proposal for the AI Act by the EU features some elements that may strengthen perceived algorithmic fairness. For example, Article 14 of the AI Act proposal states that AI systems must be designed such that they can be effectively overseen by human decision-makers. However, the proposal remains vague on responsibilities of human overseers, despite that "human-in-the-middle" principle has been prominent in talks of EU legislators and in the explanatory section of proposal as well.[71] The Article 14 sets out certain parameters or qualities that human overseers should possess *in theory*. And while the Recital 48 proposes some level of

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[65] Compare LEVENTHAL, G. S. What should be done with equity theory? In: GERGEN, K. J. – GREENBERG, M. S. – WILLIS, R. H. (eds.). *Social exchange: Advances in Theory and Research*. Boston: Springer, 1976, pp. 27–55; and also compare HOULDEN, P. – LATOUR, S. – WALKER, L. – THIBAUT, J. Preference for modes of dispute resolution as a function of process and decision control. *Journal of Experimental Social Psychology*. 1978, Vol. 14, No. 1, pp. 13–30.

[66] Compare HIRSCH, T. – MERCED, K. – NARAYANAN, S. – IMEL, Z. E. – ATKINS, D. C. Designing contestability: Interaction design, machine learning, and mental health. In: *Proceedings of the 2017 Conference on Designing Interactive Systems*. New York: Association for Computing Machinery, 2017, pp. 95–99.

[67] HSU – LI – ZHANG – FOWLER – ZILLES – KARAHALIOS, *c. d.*

[68] SUN, L. – TANG, Y. Data-Driven discrimination, perceived fairness, and consumer trust: the perspective of consumer attribution. *Frontiers in Psychology*. 2021, No. 12, pp. 1–13.

[69] LEE – JAIN – CHA – OJHA – KUSBIT, *c. d.*

[70] For a more detailed discussion about determinism and technology and law, see e.g. SCHREPEL, T. Law and Technology Realism. *MIT Computational Law Report* [online]. 2020 [cit. 2024-01-03]. Available at: https://law.mit.edu/pub/lawandtechnologyrealism/release/3.

[71] E.g. Rec. 4a), 6), 14a), 32a), 43), 48) or 70a) of the AI Act proposal.

responsibility of human overseers, recitals are, by their nature, not binding and the proposal in its current form lacks a clear guidance on the scope of overseers' responsibility. Moreover, as pointed out above ADM systems might not be very conducive to being overseen – at least not by third parties without an extremely high of expertise. Even the most explainable AI (XIA) system may feature too much data and a "black box" learning model to warrant a fair and transparent decision. Note also that the AI Act proposal does not provide a clear recommendation addressees of ADM systems should request assistance from human overseers, which limits addressees' agency. In our view, public officials regulating and implementing ADM should pay much closer attention to drivers for perceived fairness in ADM and also try harder to find ways of employing insights from that line of research.

On a conciliatory note, regulators and ADM practitioners are confronted with the patchwork nature of current research, which complicates implementing and regulating procedural algorithmic fairness. One key takeaway from our review is that people's fairness perceptions regarding ADM systems are highly dependent on context, such as are of application and the specific decision task at hand. Moreover, existing theoretical fairness concepts (e.g. distributional, procedural, etc.) are not consistently used in the literature. More research on the theoretical underpinnings of (procedural) algorithmic fairness is required, not only as an intellectual exercise but also to facilitate smart regulation. As regulators may regulate different domains differently, we also call for extending research beyond the classical use cases of ADM in, e.g., the criminal justice system, human resources, and airline ticket booking. ADM has surged in many other areas of society, such as medical decision-making, health management, insurance pricing, credit scoring, and distributing social services and benefits. We also argue for a higher diversity of research methods to be employed by researchers studying algorithmic fairness perceptions. While the literature features an appealing mix on qualitative and quantitative methods, in our reading the quantitative studies almost exclusively rely on vignette studies in which participants are exposed to varied scenario descriptions and then asked for their fairness evaluations regarding these scenarios. We propose to add to the method mix much more controlled choice experiments in which subjects themselves are exposed to algorithmic decisions. Lastly, we encourage researchers to study the comparative effects of standalone ADM systems versus ADM systems that serve as decision support on perceived algorithmic fairness, which we did not find in the section of the literature that we reviewed.

As ADM increasingly extends into different sectors of society, concerns about the distributive and procedural fairness of those systems arise. This is especially crucial in the relation between citizens and state, which is governed by public administration. Luckily, in western democracies human public administration already sports a large degree of procedural fairness. Citizens participating in administrative procedures possess information right, objection rights, the right to contribute evidence and express their opinion, all of which are beneficial to the agency dimension of procedural fairness. Similarly, public officials are required to provide motivated reasoning for their decisions, which is helpful for the transparency dimension of procedural fairness. When implementing ADM in administrative procedures, public officials need to ensure that

fairness perceptions are not crowded-out and carefully think about the societal implications of employing ADM in their routine and non-routing tasks and procedures. Suppose public institutions fail to design and implement ADM systems that are perceived as fair, perhaps because they deny citizens a voice in the decision process or produce seemingly arbitrary results. In that case, citizen could become alienated or lose trust in public institutions.[72] Once trust is lost, they might become more vulnerable to populist rethoric. Decision-makers tasked with designing and implementing ADM in public administration are, therefore, well advised to engage empirical researchers who work on human-machine transactions and jointly conduct a field test of the to-be-implemented ADM system first. Only if satisfied, not only with the technical functionality of the system, but also the addressees fairness perceptions, and other societal consequences, should public officials implement ADM on a full-size scale.

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[72] COGLIANESE, *c. d.*

EU ADMINISTRATIVE DECISION-MAKING DELEGATED TO MACHINES – LEGAL CHALLENGES AND ISSUES[1]

PAVLÍNA HUBKOVÁ

Abstract: Increasing computing power, the constant development of different types of digital tools or even the use of AI systems – they all provide the EU administration with an opportunity to use automated decision-making (ADM) tools to improve the effectiveness and efficiency of administrative action. At the same time, however, the use of these tools raises several concerns, issues or challenges. From a legal perspective, there is a risk of compromising or reducing the accountability of public actors. The use of new technologies in decision-making may also affect fundamental values and principles of the EU as a whole. Automation, the use of large amounts of data and the extremely rapid processing of such data may affect or jeopardise the rights of individuals protected by EU law, including the fundamental rights guaranteed by the EU Charter. In order to keep administrative action within the limits of the law and to guarantee the rights of individuals, it is necessary to keep an eye on the various legal challenges associated with these phenomena. This article looks at three inter-connected levels of automated decision-making – the data, the ADM tool and the way it is programmed, and the output and its reviewability – and presents the legal issues or challenges associated with each of these levels.

Keywords: automated decision-making; ADM tools; EU administrative law; good administration; protection of fundamental rights; judicial review

DOI: 10.14712/23366478.2024.25

1. INTRODUCTION

Thanks to the development of technology and the increasing computing power, the automation of various kinds, algorithmic decision-making, and even the use of elements of artificial intelligence ("AI") seem to be omnipresent. These tools are largely used mainly in the business world for commercial purposes since they present a promising tool to offer new products or services, to booster innovation, to reduce costs, to optimize outputs, or to provide with more efficiency and effectiveness. Not only can such systems solve tasks faster and more efficiently than any human being, but they can also discover patterns, relations, or correlations in data, which human neural

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

systems are hardly capable of noticing.[2] However, as a regulatory agent, the EU is aware of the potential risks of using these technologies, and therefore it tries to find appropriate ways to regulate them, in order to mitigate the risks, to protect the rights and interests of more vulnerable actors, but also to protect public interests, such as democracy and the values, on which it is based.

The necessity to regulate automated or algorithmic decision-making ("ADM") and AI systems in the EU goes hand in hand with the EU's attempt to use these types of technologies or tools within regulation. It comes somehow naturally that the EU administration cannot ignore the calling of the potential benefits which lie in the automation and various AI tools,[3] since they can help to comply with the principle of good administration.[4] They are part of the attempts of digitalisation of public law because they are believed to provide with a possibility of a swifter administrative action, a faster administrative decision-making, more objective assessment of facts, or more efficient decision-making processes.[5] Various tools for automating the administrative decision-making are therefore used in more and more EU policy fields. Some of the tools are already employed within the EU administration,[6] but the dynamic development of technology shows a high probability that the use of such tools will increase in the future.[7]

As Hofmann argues, the more tasks within the EU administration are delegated to automated processes, AI systems or various machines, the more one can talk about so-called "cyber-delegation".[8] Similar to the process of delegation of competences to agencies or other specialized bodies, the concept of cyber-delegation refers to the technique of transferring some powers to another entity, namely a machine, an algorithmic tool or an automated system.[9] Although machines or automated systems do not

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2 Cf. FINCK, M. Automated Decision-Making and Administrative Law. In: CANE, P. et al. (eds.). *The Oxford Handbook of Comparative Administrative Law*. Oxford: Oxford University Press, 2021.

3 Cf. SLOSSER, J. L. Artificial Intelligence and Public Law. In: VALVERDE, M. et al. (eds.). *The Routledge handbook of law and society*. London: Routledge, 2021.

4 Cf. ROEHL, U. B. U. Automated Decision-Making and Good Administration: Views from inside the Government Machinery. *Government Information Quarterly*. 2023, No. 4; WIDLAK, A. – VAN ECK, M. – PEETERS, R. Towards Principles of Good Digital Administration. In: SCHUILENBURG, M. – PEETERS, R. (eds.). *The algorithmic society: technology, power, and knowledge*. London: Routledge, 2020.

5 Cf. HARLOW, C. – RAWLINGS, R. Proceduralism and Automation: Challenges to the Values of Administrative Law. In: HARLOW, C. – RAWLINGS, R. *The Foundations and Future of Public Law*. Oxford: Oxford University Press, 2020, pp. 292–295.

6 For the overview, see mainly MIR, O. Algorithms, Automation and Administrative Procedure at EU Level. University of Luxembourg Law Research Paper No. 2023-08. In: *SSRN* [online]. 2023 [cit. 2024-01-29]. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4561009.

7 Cf. HOFMANN, H. C. H. Automated Decision-Making (ADM) in EU Public Law University of Luxembourg Law Research Paper No. 2023-06. In: *SSRN* [online]. 2023 [cit. 2024-01-29]. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4561116.

8 HOFMANN, H. C. H. An Introduction to Automated Decision Making (ADM) and Cyber-Delegation in the Scope of EU Public Law. University of Luxembourg Law Research Paper No. 2021-008. In: *SSRN* [online]. 2021 [cit. 2024-01-29]. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3876059.

9 Cf. CUÉLLAR, M.-F. Cyberdelegation and the Administrative State. In: PARRILLO, N. R. (ed.). *Administrative Law from the Inside Out*. Cambridge: Cambridge University Press, 2017, pp. 134–162; HOFMANN, H. C. H. Automated Decision-Making and Delegation: Discussing Implications for EU Public Law. In: WEAVER, L. R. – HOFMANN, H. C. H. (eds.). *Digitalisation of administrative law and the pandemic-reaction*. Newcastle: Cambridge Scholars Publishing, 2022, p. 113.

have the capacity to perform mental operations, the way in which they process facts and even laws and legal requirements can mimic the decision-making processes of human officials. In fact, these systems are not given any real "power" to decide on their own, but they are nevertheless trusted to produce correct results (on the basis of the criteria on which they have been designed and the data that have been supplied to them), which form an important part, or even the core, of the subsequent administrative decision.[10] It follows that the processes based on, or supported by, ADM tools have the potential to have a significant impact on procedures within the EU administration and to change the way in which the EU administration generally operates.

Like within business and commercial practices, the administration also faces risks and challenges that automation, algorithmic tools and AI systems may pose. The EU has already started to respond to the risks and challenges associated with the expansion of ADM or AI systems by preparing acts, which will regulate the use of such systems.[11] The main target is the business community, but some of the rules also apply to public actors. From the perspective of EU administrative law, there is a risk of jeopardising or reducing the accountability of public actors. The use of new technologies in decision-making may also affect fundamental values and principles of the EU as a whole, including those related to the rule of law.[12] Automation, the use of large amounts of data and the extremely rapid processing of such data may affect or endanger the rights of individuals protected by EU law, including fundamental rights guaranteed by the EU Charter. Moreover, while there may be a kind of optimistic perception that ADM tools are more objective and rather neutral when it comes to assessing facts, there are studies that show that even ADM can be biased, flawed or make mistakes in a manner similar to human decision-making.[13]

It follows that while computing power and various types of automated processes can improve the effectiveness and efficiency of administrative action, ADM tools should be welcomed as useful tools, but always with caution. As cliché as it may sound, the automation, computing power and large data processing present both opportunities and challenges for public administration in the EU. In order to keep administrative action within the boundaries of law and to guarantee rights of individuals, it is necessary to keep an eye on the various legal challenges related to these phenomena.

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10 Cf. FINCK, *c. d.*, pp. 7–8.

11 Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and the re-use of public sector information (recast), PE/28/2019/REV/1, OJ L 172, 26. 6. 2019, pp. 56–83. See also the Regulation of the European Parliament and of the Council on laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts (as approved by the European Parliament on 13 March 2024).

12 For the overview of the effects of automated decision-making on the rule of law, see SUKSI, M. (ed.). *The Rule of Law and Automated Decision-Making: Exploring Fundamentals of Algorithmic Governance*. Cham: Springer International Publishing, 2023.

13 ZERILLI, J. et al. Transparency in Algorithmic and Human Decision-Making: Is There a Double Standard? *Philosophy & Technology*. 2019, Vol. 32, No. 8, p. 661.

2. AUTOMATION, AUTOMATED PROCESSING OF DATA, ADM AND AI IN THE EU ADMINISTRATIVE DECISION-MAKING

From a technological point of view, the EU administration can choose from a wide range of different computational, algorithmic or even AI systems or tools, which are constantly being developed and improved. What these tools have in common is that they are based on computer software and data and are designed to assist human officials in making decisions or taking steps in the decision-making process, or even to replace some phases in the human decision-making process.[14] Different phases of administrative action make space for the use of different ADM tools, which can play different roles depending on the objective – they can be used for agenda setting and policy considerations, but also for rule implementation, investigation, fact finding or fact assessment. In general, ADM systems can be used by the administration both as reactive tools (to assess the facts of an event that has already occurred) and as preventive tools (to predict behaviour and take action based on that prediction).[15]

The results of the automated processes within the administration are considered as automatically processed information,[16] or – if the result is more complex – as an automated (or algorithmic) public administrative decision.[17] At this moment, an ADM tool usually generates an *input*, which makes part of the following human decision, or it can produce a *default decision*, which is subject to a human examination and potential annulment or correction.[18] Since the administrative authorities normally do not issue fully automated decisions, but rather use ADM tools as an aid at certain phases of their action, legal scholars label the employment of such tools as "semi-automated decision-making",[19] "algorithm-assisted decision-making"[20] or "mixed algorithmic decision-making".[21] These labels refer to the fact that an ADM tool only generates a result, a hit, a match, an alert, or a recommendation, which is further processed by a human official who makes the final decision.[22]

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14 Cf. HOFMANN, *Automated Decision-Making (ADM) in EU Public Law*.

15 YEUNG, K. Algorithmic Regulation: a Critical Interrogation. *Regulation & Governance*. 2018, Vol. 12, pp. 507–508.

16 Cf. DEMKOVÁ, S. The Decisional Value of Information in European Semi-Automated Decision-Making. *Review of European Administrative Law*. 2021, Vol. 2, No. 14, p. 29.

17 CIVITARESE, M. S. Public Administration Algorithm Decision-Making and the Rule of Law. *European Public Law*. 2021, Vol. 27, No. 1, p. 103.

18 COGLIANESE, C. A Framework for Governmental Use of Machine Learning: Report to the Administrative Conference of the United States [online]. 8. 12. 2020, pp. 72–73 [cit. 2024-01-29]. Available at: https://www.acus.gov/document/framework-governmental-use-machine-learning-final-report.

19 DEMKOVÁ, *c. d.*

20 OSWALD, M. Algorithm-Assisted Decision-Making in the Public Sector: Framing the Issues Using Administrative Law Rules Governing Discretionary Power. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences* [online]. 2018, Vol. 376, No. 2128 [cit. 2024-01-29]. Available at: https://royalsocietypublishing.org/doi/10.1098/rsta.2017.0359.

21 BUSUIOC, M. Accountable Artificial Intelligence: Holding Algorithms to Account. *Public Administration Review*. 2021, Vol. 81, pp. 825, 828.

22 For the typology of results of ADM tools see PALMIOTTO, F. When Is a Decision Automated? A Taxonomy for a Fundamental Rights Analysis. Forthcoming in German Law Review. 2023. In: *SSRN* [online]. 2023 [cit. 2024-01-29]. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4578761.

It is rare to find an administrative process that is, or can be, fully automated. An example of such a rarity could be the automatic generation and sending of a speeding ticket based on the evaluation of cameras along roads or motorways. This would be an example of an *automated decision* without any human intervention.[23] Interestingly, the Federal Court of Australia does not consider a computer-generated letter to be an administrative decision at all because its production does not involve "mental process of reaching a conclusion".[24] On the other hand, it can be said that EU law somehow foresees the possibility of automated decision-making in the GDPR. Its Article 22 defines automated decision-making as "a decision based solely on automated processing", but allows it only on the basis of the explicit consent of the data subject or where there is an explicit legal basis in EU or national law. Automated processing means that it takes place without human intervention. However, as Brkan argues, the human element is not completely removed: Since the ADM tool processes data, there has to be a human decision about which data are put into the tool. There is also a human decision in the construction of the ADM tool. Finally, a result of automated decision-making requires interpretation by a human.[25] Therefore, it is not clear whether it is accurate to speak of fully automated administrative decision-making at all.

Some of the EU's activities use a rather simple version of automated processing of information contained in large-scale information systems. An example is the processing of data contained in the Schengen Information System,[26] which stores biometric data for use in migration policy or to combat crime or enforce criminal law in the area of freedom, security and justice (AFSJ). The system is able to compare biometric data to verify the identity of the individual. On the basis of the comparison, such a person may be denied a visa or may be apprehended, detained or even prosecuted. Such a practice may be referred to as semi-automated conduct or semi-automated decision-making.[27]

More advanced ADM tools use large databases and process the data contained in them according to pre-defined rules to calculate probabilities in order to respond to tasks embedded in the programme. Some software tools used in public administration may also be based on so-called artificial intelligence (AI) or may contain AI components. However, it is difficult to find a clear definition of AI, as even technology experts cannot agree on what such a system is and what it should be able to do. At the same time, it is not clear where to draw the line between an advanced algorithm, usually based on a decision tree ("white box" where its branches are traceable and understandable, at least

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23 COGLIANESE, *c. d.*, pp. 72–73.

24 Pintarich v. Deputy Commissioner of Taxation, FCAFC 79, judgment of 25 May 2018. More about the case in DALY, P. – RASO, J. – TOMLINSON, J. Administrative Law in the Digital World. In: HARLOW, C. (ed.). *A Research Agenda for Administrative Law*. Chentelham: Edward Elgar, 2023, p. 257.

25 BRKAN, M. Do Algorithms Rule the World? Algorithmic Decision-Making and Data Protection in the Framework of the GDPR and Beyond. *International Journal of Law and Information Technology*. 2019, Vol. 27, pp. 91, 93.

26 Regulation (EU) 2018/1860 of the European Parliament and of the Council of 28 November 2018 on the use of the Schengen Information System for the return of illegally staying third-country nationals. PE/34/2018/REV/1, OJ L 312, 7. 12. 2018, pp. 1–13.

27 DEMKOVÁ, *c. d.*

for IT experts[28]), and a true AI system, which is presented as a "black box" because it is difficult or even impossible to identify the way it learns and generates results.

The European Commission has suggested a definition of AI in its communication,[29] saying that AI *"refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)"*. However, this broad definition is not very helpful in understanding the AI components used within administrative action.

Moreover, there are many ways and techniques to build an AI system. Some AI systems process data on the basis of pre-defined rules (so-called rule-based systems), while there are others which are given testing data and testing results (e.g. past decisions) and are capable of inferring the algorithm by themselves without being given the pre-defined rules. The first group of systems is therefore based on "if-then" algorithms: The system is given certain rules, facts, and structures, and based on the input data, it calculates probabilities to generate outcomes. The latter systems use a technology known as machine learning or, as a subcategory, deep learning, which mimics the way neural networks work: Instead of telling the tool what to do, the tool learns by looking at examples. It is able to deduce correlations from the input data, on the basis of which it generates its own algorithm.[30]

There are other ways to classify different AI systems or AI components included in ADM tools according to the type of training data, the type of rules, or the type of supervision: On the one hand, there are supervised AI systems, where a human is able to explain to some extent how the AI system learns, and on the other end of the spectrum, there are unsupervised AI systems, which operate as a true "black box" tool, and it is difficult for humans – including IT experts – to decode or decipher how the system learns and how it produces results.[31] In both cases and across the range of AI tools, the result usually imitates human reasoning and communication very convincingly, but – as it has been argued – the tools themselves, at least at the present-day stage of development, lag behind in determining the reasons and sources from which the result was made, or in explaining the relations between such reasons and sources.[32] The process that precedes the result is therefore less convincing.

Although the AI systems based on unsupervised learning pose questions about their legitimacy, accuracy and reviewability, they can still have their place within

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[28] LIGA, D. The Interplay Between Lawfulness and Explainability in the Automated Decision-Making of the EU Administration. University of Luxembourg Law Research Paper No. 2023-12. In: *SSRN* [online]. 2023 [cit. 2024-01-29]. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4561012.

[29] Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Artificial Intelligence for Europe, Brussels, 25. 4. 2018, COM(2018) 237 final.

[30] Cf. FINCK, M. – FINK, M. Reasoned A(I)dministration: Explanation Requirements in EU Law and the Automation of Public Administration. *European Law Review*. 2022, Vol. 47, No. 3, pp. 379, 378.

[31] Cf. COGLIANESE, C. – LEHR, D. Regulating by Robot: Administrative Decision Making in the Machine Learning Era. *Georgetown Law Journal*. 2017, Vol. 105, No. 5, pp. 1147, 1157–1158; FINCK, *c. d.*, p. 3.

[32] Cf. HOFMANN, *Automated Decision-Making (ADM) in EU Public Law*, p. 2.

administration as "creative advisors" – they can help with agenda setting, or they can be asked to generate questions, advises or patterns stemming from the large amount of data, which a single human being does not have a capacity to analyse.

The EU institutions have already started to experiment with the benefits of AI-assisted alerting systems. One example is a pilot experiment by DG Agri, which uses satellite monitoring of fields and AI to assess potential non-compliance with agricultural subsidy rules. The alert generated by the AI system is further investigated by human officials, and only then a legal decision is taken.[33] The EUIPO is also experimenting with AI tools and has already launched a pilot project that allows for an AI-based comparison of goods and services for trademark registration purposes.[34]

In any case, regardless of their partial role within the cycle or process of administrative action, and regardless of their particular nature, ADM tools have the capacity to influence the final outcomes of administrative authorities. In the EU, the ever-increasing capacity and power of these tools is capable of changing the way in which EU rules are implemented and even enforced. It is arguably not an exaggeration to say that the employment of ADM tools can *"re-shape the procedural design of implementation of EU policies"*.[35]

Such a capacity or ability may seem like a promising advantage, and the use of ADM or AI tools may be truly beneficial. At the same time, however, the dynamic evolution of such systems, together with the potential lack of human capacity to understand them properly, raises important questions from the perspective of the law, its fundamental principles and the fundamental rights of individuals who may be affected by the use of these tools.

Depending on the stage at which automation is used, or the objective for which an ADM tool is used, but also on the specific type of ADM, different values, interests and rights protected by the EU may be affected. When ADM tools are used in the context of policy planning, agenda setting or administrative rule making, but also in the investigation phases of administrative actions, the legal challenges are of a different nature than in the case of individual decisions. In the first case, the principles of accountability, good governance, quality of administration, reasonableness in decision-making and efficiency or effectiveness are at stake and need to be assessed from a more systemic perspective. In the latter case, on the other hand, the question of legality and the rights of individuals must be at the centre of the assessment of the impact of the automation or algorithmic elements.[36]

These legal challenges are aggravated by the multi-level system of EU law and by the complexity of its enforcement structures where authorities both from EU level and

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[33] Details about the experiment in MIR, *c. d.*, p. 20. See also other examples of the use of AI or ADM tools in EU administrative law explained there.

[34] New AI-based comparison of goods and services. In: *EUIPO* [online]. 29. 3. 2022 [cit. 2024-01-29]. Available at: https://euipo.europa.eu/ohimportal/hu/strategic-drivers/ipinnovation/-/asset_publisher/a1GIL6YlCj79/ content/new-ai-based-comparison-of-goods-and-services.

[35] HOFMANN, *Automated Decision-Making (ADM) in EU Public Law*, p. 2.

[36] Cf. HOFMANN, *An Introduction to Automated Decision Making (ADM) and Cyber-Delegation in the Scope of EU Public Law*, p. 23.

national level are involved.[37] Administrative cooperation often includes information sharing or informational cooperation between authorities.[38] In addition, the phenomenon of composite procedures requires input from several authorities at national or EU level, which poses challenges in terms of judicial review of the final outcome.[39] In sum, the multi-level system appears to multiply the legal challenges associated with the use of ADM instruments in EU administrative action.

It is therefore clear that the legal issues, problems and challenges related to automated processes in administrative decision-making in the EU are numerous. They can be analysed from different perspectives and angles, depending on the type of administrative action in which ADM tools are used, the actors involved in the process and how they are affected, or with regard to a type of tool, a stage of the administrative action in which it is used, or a result it produces. Yeung, for example, emphasises that our concerns about automated decision-making are mainly about two interrelated aspects: first, the reliance on machines and the sole entrustment of decision-making to these tools, and second, the personal nature of the data, with which the machines are fed.[40] The following text takes a look at three levels of automated decision-making where these concerns meet – the data, the ADM tool and the way it is programmed, and the output and its reviewability – and presents the legal issues or challenges associated with each of these levels.

3. THREE LEVELS OF LEGAL CHALLENGES

3.1 THE DATA IN THE AUTOMATED DECISION-MAKING

The precondition for the effective and legal use of any ADM or AI tool is the existence of (accurate) data, its adequate storage and processing. The large amounts of information, usually stored in large databases, are indispensable both for the programming of the tool and for its use in practice. The legal challenges related to the use of ADM within the administrative action therefore start with the collection, storage and processing of the training data during the creation of the ADM tool, which has to comply with the EU data protection regulations: GDPR and EUDPR.[41] Another set of

[37] Cf. HOFMANN, H. C. H. Composite Decision Making Procedures in EU Administrative Law. In: HOFMANN, H. C. H. – TÜRK, A. (eds.). *Legal Challenges in EU Administrative Law*. Cheltenham: Edward Elgar, 2009.

[38] Cf. BENJAMIN, J. Safeguarding the Right to an Effective Remedy in Algorithmic Multi-Governance Systems: an Inquiry in Artificial Intelligence-Powered Informational Cooperation in the EU Administrative Space. *Review of European Administrative Law*. 2023, Vol. 16, No. 2, p. 9.

[39] Cf. ELIANTONIO, M. Judicial Review in an Integrated Administration: the Case of "Composite Procedures". *Review of European Administrative Law*. 2015, Vol. 7, No. 2, pp. 65, 66.

[40] YEUNG, K. Why Worry about Decision-Making by Machine? In: YEUNG, K. – LODGE, M. (eds.). *Algorithmic Regulation*. Oxford: Oxford University Press, 2019, p. 23.

[41] GDPR: Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ L 119, 4. 5. 2016, pp. 1–88; and EUDPR: Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the

legal challenges also arises when the ADM tool is used in practice, processing concrete (personal) data in order to make a concrete administrative decision.

With regard to data and their efficient use in the EU, there are at least three categories of legal challenges and of necessary legal rules, which must be made and observed. First, it is necessary to provide a framework for the creation and maintenance of large-scale databases. A prominent example is the Schengen Information System which stores data for the purposes of the AFSJ, specifically for border management. The EU has even established a specialised agency, which is charged with the collection and storage of data in this policy – eu-LISA.[42] Similar information systems have been developed for the purposes of other EU policies, such as human and veterinary medicine products, plant health, or food and non-food products safety.[43] They usually serve as platforms for information exchange and provide alerts in risk regulation.

In order to make efficient use of such stored data, the EU must lay down rules to ensure interoperability.[44] The principle of interoperability is a prerequisite for linking different data collections, which enables data processing by different ADM tools.[45] Interoperability allows databases to be interconnected and enables ADM tools to search for data in different databases and to match the data for pre-defined purposes. The EU legislator has already regulated the interoperability of databases in the field of borders and visas,[46] and the regulation setting general interoperability rules in the EU has been recently adopted.[47] Another set of rules is needed to enable an efficient exchange of information.[48] Especially in the context of multi-level and decentralised enforcement of EU law, actors at both EU and national level need to have access to the data they need to fulfil their respective mandates. Data sharing and information exchange therefore need

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Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No. 1247/2002/EC, OJ L 295, 21. 11. 2018, pp. 39–98.

42 Established by Regulation (EU) No 1077/2011 of the European Parliament and of the Council of 25 October 2011 establishing a European Agency for the operational management of large-scale IT systems in the area of freedom, security and justice, OJ L 286, 1. 11. 2011, pp. 1–17. The original regulation was replaced by Regulation (EU) 2018/1726 of the European Parliament and of the Council of 14 November 2018 on the European Union Agency for the Operational Management of Large-Scale IT Systems in the Area of Freedom, Security and Justice (eu-LISA), and amending Regulation (EC) No 1987/2006 and Council Decision 2007/533/JHA and repealing Regulation (EU) No 1077/2011, PE/29/2018/REV/1, OJ L 295, 21. 11. 2018, pp. 99–137.

43 More on large scale information systems in these policies in DEMKOVÁ, *c. d.*, pp. 33–35.

44 Cf. CURTIN, D. M. – BASTOS, F. B. Interoperable Information Sharing and the Five Novel Frontiers of EU Governance: a Special Issue. *European Public Law*. 2020, Vol. 26, No. 1, p. 59.

45 Cf. QUINTEL, T. Connecting Personal Data of Third Country Nationals. Interoperability of EU Databases in the Light of the CJEU's Case Law on Data Retention. *Europarättslig tidskrift*. 2018, Nr. 2; TASSINARI, F. ADM in the European Union: an Interoperable Solution. In: LARSEN, H. L. et al. (eds.). *Flexible Query Answering Systems*. Cham: Springer, 2023, pp. 290–303.

46 Regulation (EU) 2019/817 of the European Parliament and of the Council of 20 May 2019 on establishing a framework for interoperability between EU information systems in the field of borders and visa and amending Regulations (EC) No 767/2008, (EU) 2016/399, (EU) 2017/2226, (EU) 2018/1240, (EU) 2018/1726 and (EU) 2018/1861 of the European Parliament and of the Council and Council Decisions 2004/512/EC and 2008/633/JHA, PE/30/2019/REV/1, OJ L 135, 22. 5. 2019, pp. 27–84.

47 Regulation of the European Parliament and of the Council laying down measures for a high level of public sector interoperability across the Union (Interoperable Europe Act) PE/73/2023/REV/1, OJ L, 2024/903, 22. 3. 2024.

48 Cf. CURTIN – BASTOS, *c. d.*

to be regulated and facilitated in EU public law. Moreover, there are EU policies where public actors at EU or national level need access to data collected and stored by private actors. Therefore, the EU needs to establish obligations for private actors to provide data, which will then be accessed and processed by public actors in policies such as financial regulation, communications, or travel safety.[49]

The second category of data-related legal challenges is the necessity to guarantee an adequate quality of data. Regardless of whether the data are collected by private or public actors, the latter are responsible for the outcome based on such data. Therefore, the EU has already started issuing rules to supervise the quality of collected and stored data, and to set standards of data of adequate quality, when it comes, for example, to biometric data, or photographs and dactyloscopic data.[50] Not only must the individual pieces of information stored in the datasets be of adequate quality, but the datasets as a whole must meet certain standards. This is especially true for data used as training material for the development of more advanced ADM or AI tools. There is a risk that biased training data will lead to a biased AI model. The most obvious threat seems to be the potential discrimination induced by flawed datasets.[51] Therefore, for the purposes of high-risk AI systems, the AI Act states that *"*[t]*raining, validation and testing data sets shall be relevant, sufficiently representative, and to the best extent possible, free of errors and complete in view of the intended purpose. They shall have the appropriate statistical properties, including, where applicable, as regards the persons or groups of persons in relation to whom the high-risk AI system is intended to be used. Those characteristics of the data sets may be met at the level of individual data sets or at the level of a combination thereof."*[52]

The third group of data-related legal challenges in the context of ADM consists of data processing, which must be in compliance with the GDPR or the EUDPR. Both these regulations[53] include a general prohibition to subject an individual solely to an automated decision-making. However, with regard to administrative decision-making, it foresees exception: Either the automated processing is explicitly approved by the data subject, or such automated processing of data is authorized by EU law or national law. In addition, the authorization must include safeguards to protect the rights and freedoms of individuals and legitimate interests. Therefore, whether it concerns national authorities acting within the scope of EU law or EU institutions, an individual cannot

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49 More on this in HOFMANN, *Automated Decision-Making (ADM) in EU Public Law*, pp. 11–12.

50 E.g. Commission Implementing Decision (EU) 2021/31 of 13 January 2021 on laying down rules for the application of Regulation (EU) 2018/1862 of the European Parliament and of the Council as regards the minimum data quality standards and technical specifications for entering photographs, DNA profiles and dactyloscopic data in the Schengen Information System (SIS) in the field of police cooperation and judicial cooperation in criminal matters and repealing Commission Implementing Decision (EU) 2016/1345 (notified under document C(2020) 9228), C/2020/9228, OJ L 15, 18. 1. 2021, pp. 1–6.

51 Cf. VETRÒ, A. – TORCHIANO, M. – MECATI, M. A Data Quality Approach to the Identification of Discrimination Risk in Automated Decision Making Systems. *Government Information Quarterly* [online]. 2021, Vol. 38, No. 4 [cit. 2024-01-14]. Available at: https://linkinghub.elsevier.com/retrieve/pii/S0740624X21000551. See below.

52 Article 10(3) of the Regulation of the European Parliament and of the Council on laying down harmonised rules on Artificial Intelligence (Artificial Intelligence Act) and amending certain Union Legislative Acts (as approved by the European Parliament on 13 March 2024).

53 Article 22 GDPR and Article 24 EUDPR.

be affected by an administrative decision based on automated processing of data unless it is authorized by law and the authorizing measures provide for a sufficient level of protection of the individual's fundamental rights and legitimate interests in general. Where such automated processing is authorized by law, the data subject has the right to be informed of the existence of such automated decision-making.[54] Furthermore, the data subject is protected by minimum safeguards: the right to human intervention, the right to express one's point of view and, finally, the right to contest the decision.[55]

Where authorized automated data processing takes place in the context of administrative decision-making, the required protection of fundamental rights will include procedural rights guaranteed by the EU Charter, such as the right to good administration and the right to effective judicial protection, but also substantive rights, such as non-discrimination or the right to privacy. The protection of substantive rights may be particularly relevant when more advanced tools, or tools with AI elements, are used for automated data processing. With regard to the nature of these tools and the way they are constructed, individuals are affected not only by the automated processing of their own personal data, but also by the processing of aggregated data about other individuals collected and used as training data for the AI system.[56] In addition to this, the requirement for the protection of fundamental procedural rights will become relevant, in particular with regard to the assessment of the output, when the final decision is subject to review by a court of law. It is therefore clear that the legal issues related to the processing of data are closely linked to the legal challenges at the other two levels: at the level of the ADM tool and its design, and at the level of the output and its reviewability.

3.2 THE ADM TOOL AND ITS DESIGN

A further set of legal challenges arise in relation to the programming of the specific software used as an ADM tool. The legal issues are relevant both to the creation of the ADM tool (*ex-ante* legal analysis) and to the evaluation of the functioning of such a tool (*ex-post* legal analysis).

While the commands and requirements used to program an algorithm may, at first glance, bear a resemblance to the rules and requirements of law, they are conceptually different.[57] Desirable human behaviour, or responses to undesirable behaviour, cannot simply be pre-programmed, while the computer performs the task according to the rules it has been given. When ADM tools are programmed, the process follows the logic of computation and algorithms. However, when the practical use of an ADM tool must comply with the law, the programming itself must carefully follow the legal

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[54] Articles 12, 13, and 14 GDPR, and in Articles 15, 16 and 17 EUDPR.

[55] Article 22(3) GDPR, and Article 24(3) EUDPR. More on these rights in, e.g., GEBURCZYK, F. Automated Administrative Decision-Making under the Influence of the GDPR – Early Reflections and Upcoming Challenges. *Computer Law & Security Review*. 2021, Vol. 41, pp. 6–10.

[56] SÜMEYYE, E. B. Between Human and Machines: Judicial Interpretation of the Automated Decision-Making. University of Luxembourg Law Research Paper No. 19. In: *SSRN* [online]. 2023, p. 14 [cit. 2024-01-29]. Available at: https://ssrn.com/abstract=4662152.

[57] Cf. HOFMANN, *An Introduction to Automated Decision Making (ADM) and Cyber- Delegation in the Scope of EU Public Law*, pp. 4–5.

requirements. Any computational algorithm is based on rules, but when an ADM tool is used in administrative decision-making, it must be based on legal rules. Therefore, ADM tools used within the scope of EU law must comply with EU legal requirements.[58] The nature of the legal rules themselves is particularly challenging, as they are susceptible to different interpretations and sometimes allow for discretionary decisions, which makes their inclusion in an ADM tool rather complicated. Legal rules incorporated into an ADM must therefore be precise, unambiguous and resistant to being interpreted in too many ways.[59]

This is where the asymmetry between the computational system and the legal system comes to the fore. At the same time, the so-called epistemic asymmetry of the actors involved in the process must be highlighted.[60] Experts in programming and AI training have different epistemic equipment than specialists in a particular field of administration or lawyers in general. While the former may be blind to some aspects that are relevant from a legal perspective, the latter may not fully understand what an ADM tool or a computational aid can or cannot process or how exactly it works. The practical challenge is therefore how to bridge the computational and legal spheres, and how to create an ADM that does what the administration wants it to do and is compliant with the legal requirements.

An important aspect of this may already be the question of who will programme the tool and what relationship that person will have with the administrative body. There are several models of how an ADM tool can be set up for administrative purposes: an administrative body can purchase the tool from an external supplier, or it can employ external specialists to work alongside its own staff. Both models raise public procurement issues.[61] It may also be problematic to allow external suppliers to access the databases maintained by the authorities,[62] or there is a potential risk that the data or even the know-how acquired in creating an ADM tool for public use will be further used for commercial purposes. Another model is to use internal sources, where the authority's own staff programme and train the whole tool.[63] The main challenge here seems to be how to attract highly skilled AI experts who would be willing to work for a public authority.[64] It should be noted that different people involved in the programming process may have different visions, but also different interests.[65] In any case, no matter which model of cooperation is chosen by the public authority concerned, the principle of good administration will have to be respected. At the end of the day, the administrative authority will be responsible for the ADM tool and its outputs, so whether the tool is created or

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58 Cf. HOFMANN, *Automated Decision-Making (ADM) in EU Public Law*, p. 33.
59 BRKAN, *c. d.*, p. 95.
60 Cf. RUSSO, F. – SCHLIESSER, E. – WAGEMANS, J. Connecting Ethics and Epistemology of AI. *AI & Society*. 2023, pp. 8–10.
61 Cf. HICKOK, M. Public Procurement of Artificial Intelligence Systems: New Risks and Future Proofing. *AI & Society*. 2022; McBRIDE, K. et al. Towards a Systematic Understanding on the Challenges of Procuring Artificial Intelligence in the Public Sector. *SocArXiv* [online]. 2021 [cit. 2023-12-12]. Available at: https://osf.io/un649 12.
62 Cf. FINCK, *c. d.*, p. 10.
63 As in case of EUIPO and its AI based experiment, cf. MIR, *c. d.*, p. 20.
64 On the difficulties of public authorities in hiring AI experts in the US context, see COGLIANESE, *c. d.*, p. 40.
65 Cf. MIR, *c. d.*, p. 14.

co-created by private actors or developed internally, the authority must be able to clearly communicate its needs for the intended outcome. It must also be able to assess whether the final tool fulfils the task for which it was created and whether the tool complies with legal requirements.

The Court of Justice has already tackled the legal aspects of programming ADM systems. It stated that *"the pre-established models and criteria on which that type of data processing are based should be, first, specific and reliable, making it possible to achieve* [intended] *results"*.[66] This means that the design of an ADM tool and the way in which an algorithm is programmed are of a high relevance, and they have a normative nature, since they are capable of predetermining what the output of automated processing will be.[67]

One of the most discussed legal risks of advanced ADM tools is that of a potentially biased tool. In particular, ADM tools that include machine learning components are susceptible to being biased, and therefore even discriminatory, due to the biased training data.[68] For example, Huq talks about sample bias, feature bias, and label bias[69] with regard to data, based on which the tool is trained: If the sample is not representative, the pattern found by the tool cannot be representative either; if certain data are given a wrong feature, the tool learns based on this mistake, and finally, a problem arises if a biased or wrong label is put on a characteristic contained in the data, which should not be decisive for the outcome.[70]

Without going into the details of the programming itself, it must be emphasised that the choice, quality and classification of the training data are relevant from a legal point of view. In particular, the assignment of labels and features is a very sensitive task, which can be harmful if it is carried out without proper knowledge of the legal relevance of the training data and the type of bias that the data can lead to.[71] If a tool is fed by discriminatory inputs, it will produce discriminatory results. In this respect, the CJEU has already stated that sensitive data as defined in Article 9 of the GDPR (racial or ethnic origin, political opinions, religious or philosophical beliefs, trade-union membership, or data concerning health and sex life or sex preferences) cannot be used for

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66 CJEU, judgment of 6 October 2020, La Quadrature du Net, C-511/18 – C-520/18, EU:C:2020:791, paragraph 180, referring to Opinion of 26 July 2017, EU-Canada PNR Agreement, C-1/15, EU:C:2017:592, paragraph 172.

67 Cf. MIR, *c. d.*, pp. 14–15.

68 For the overview of biases in algorithms, see, e.g., VAN GIFFEN, B. – HERHAUSEN, D. – FAHSE, T. Overcoming the Pitfalls and Perils of Algorithms: a Classification of Machine Learning Biases and Mitigation Methods. *Journal of Business Research*. 2002, Vol. 144, p. 93.

69 HUQ, A. Z. Constitutional Rights in the Machine Learning State. *Cornell Law Review*. 2020, Vol. 105, No. 7, pp. 1875, 1924–1925. Referring to CORBETT-DAVIES, S. et al. The Measure and Mismeasure of Fairness. *Journal of Machine Learning Research*. 2023, Vol. 27, pp. 1, 17–19.

70 Ibid. See the examples described there, especially with regard to gender discrimination or racial discrimination. Cf. also COGLIANESE, *c. d.*, pp. 47–49.

71 Cf. SURESH, H. – GUTTAG, J. A Framework for Understanding Sources of Harm throughout the Machine Learning Life Cycle. In: *Equity and Access in Algorithms, Mechanisms, and Optimization* [online]. New York: Association for Computing Machinery, 2021 [cit. 2023-11-30]. Available at: https://dl.acm.org/doi/10.1145/3465416.3483305.

automated analysis, otherwise such processing would be in breach of Articles 7, 8 and 21 of the EU Charter.[72]

It follows that even the programming of the ADM tool must respect the fundamental rights protected by EU law, such as the right to privacy, the right to respect for private and family life, and non-discrimination. Those who build the algorithms and train the machine must be aware of the legal requirements and the legal relevance of the data used. In addition, the Court points to the need to regularly re-examine the programme and its results *"to ensure that those pre-established models and criteria and the databases used are reliable and up to date"*.[73] In other words, once a particular ADM tool has been trained and put into practice, it needs to be constantly monitored and evaluated in terms of its operation and output.

Another aspect related to the programming of ADM tools, which has already been discussed in the literature,[74] is the issue of impact assessments and public consultations in relation to the particular tools. The idea is that ADM tools can have a similarly significant impact as administrative regulation, which is subject to impact assessment, and that such assessment can serve as a precautionary measure to identify potentially harmful tools.[75] The European Law Institute (ELI) has even published a report suggesting what such an impact assessment of ADM instruments should look like.[76] According to these ELI Model Rules, the evaluation should not be limited to the pre-launch phase and the programming process itself, but should continue after the ADM tool has been put into practice.[77] This is in line with the above-mentioned requirement of the Court of Justice that the programme used for automated processing must be subject to regular re-examination to ensure its accuracy and reliability. In addition, there may be a problem with more advanced ADM tools that use AI elements that learn from the past, i.e., from the data describing events that have already occurred. Without adaptation, these tools are unable to take into account new circumstances and a broader context. By themselves, the tools or systems cannot decide to override a past decision if circumstances change.

The re-assessment of the tool may identify and correct errors in the algorithm itself, but it may also lead to an *ex officio* review of erroneous decisions taken using the previous version of the ADM tool.[78] Such a preventive assessment of ADM tools would make sense mostly in the case of those tools, which have a direct or at least strong

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72 CJEU, judgment of 6 October 2020, La Quadrature du Net, C-511/18 – C-520/18, EU:C:2020:791, paragraph 165.

73 Ibid., paragraph 182; referring to Opinion of 26 July 2017, EU-Canada PNR Agreement, Opinion 1/15 EU:C:2017:592, paragraphs 173 and 174.

74 MIR, *c. d.*, pp. 16–17 and literature quoted in fn 55. Cf. also FINCK, *c. d.*, pp. 14–16.

75 Cf. HOFMANN, H. C. H. – MIR, O. – SCHNEIDER, J.-P. Digital Administration: the ReNEUAL Model Rules on EU Administrative Procedure Revisited. In: FROMAGE, D. (ed.). *Jacques Ziller: a European scholar*. Florence: European University Institute, 2022, pp. 94–95.

76 *Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration* [online]. European Law Institute, 2022 [cit. 2024-01-29]. Available at: https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Model_Rules_on_Impact_Assessment_of_ADMSs_Used_by_Public_Administration.pdf.

77 Ibid., Article 14.

78 MIR, *c. d.*, p. 18.

impact on individual decision-making.[79] But it can also be useful in the case of ADM tools used for agenda setting and other more creative tasks. It can reveal potential flaws before policy choices based on the results of ADM tools are put into practice.

3.3 THE OUTPUT, ITS OVERSIGHT AND ITS REVIEWABILITY

The evaluation of the output of ADM tools is not separate from the previous two aspects. In fact, the evaluation of the output includes the *ex-post* legal analysis of the ADM tool, its design and the way it has been programmed, since the technique of the tool influences the result, which it generates. At the same time, the *ex-post* evaluation must take into account the data used and processed in the stages leading to the output.

This is linked to one of the fundamental rights protected under EU law, namely the right to good administration. As defined in Article 41 of the EU Charter, this right includes a corresponding duty of care, which requires from administrative authorities acting under EU law *"to examine carefully and impartially all the relevant aspects of the individual case"*.[80] It follows that when an ADM tool is used, these procedural safeguards must be respected. First, the principle of procedural fairness requires that the individual be informed that the decision has been taken with the assistance of an ADM tool. Secondly, automated processing must not result in an assessment of the relevant facts that is less thorough than that carried out by human officials. This also requires human oversight of the accuracy of the output.[81] As the Court of Justice has pointed out in the context of automated analyses of traffic and location data, ADM tools can make mistakes, therefore *"any positive result obtained following automated processing must be subject to an individual re-examination by non-automated means before an individual measure adversely affecting the persons concerned is adopted"*.[82]

The principle of good administration in Article 41 also includes an important obligation for public authorities to give reasons for their decisions.[83] In addition, anyone whose rights and freedoms under EU law have been violated has the right to effective judicial protection under Article 47 of the EU Charter. The reasons on which a decision is based are important both for the individual concerned and for the court providing judicial review. A person affected by an administrative decision must be able to understand the reasons for it in order to know how to defend himself before a court and whether there is any chance of a successful challenge before a court. As the CJEU

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79 Cf. HOFMANN, *An Introduction to Automated Decision Making (ADM) and Cyber- Delegation in the Scope of EU Public Law*, p. 28.

80 CJEU, judgment of 21 November 1991, Technische Universität München, C-269/90, EU:C:1991:438, paragraph 14.

81 Cf. MIR, *c. d.*, p. 12.

82 CJEU, judgment of 6 October 2020, La Quadrature du Net, C-511/18 – C-520/18, EU:C:2020:791, paragraph 182.

83 While this article refers to the principle of good administration to be applicable to EU institutions and bodies, the very same rule applies to national authorities when acting within the scope of EU law as a matter of the general principle of EU law (see, e.g., CJEU, judgment of 8 May 2019, PI v. Landespolizeidirektion Tirol, C-230/18, EU:C:2019:383, paragraphs 56–58).

explains, the reasons must be *"sufficiently specific and concrete to allow the person concerned to understand the grounds of the individual measure adversely affecting him"*, therefore the duty to give reasons is *"a corollary of the principle of respect for the rights of the defence, which is a general principle of EU law"*.[84]

In parallel, in order for a court to assess whether an administrative decision based on, or assisted by, an ADM tool has violated the rights of individuals, it must examine the reasons for such a decision. It recalls the basic condition for judicial review on the merits: an administrative decision must be based on reasons which are consequently subject to review. The absence of reasons or the objective inability of a court to identify and understand them are the simplest grounds for setting aside an administrative decision. As the CJEU constantly puts it, *"the obligation to state reasons is an essential procedural requirement that must be distinguished from the question whether the reasoning is well founded, which is a matter of the substantive legality of the contested act"*.[85] In other words, when a court has to assess the legality of an administrative decision, it must be able to reconstruct the reasoning that led to that decision, and only if the reasoning is comprehensible can the court provide a substantive review.

One of the most pertinent issues with advanced ADM tools is the so-called algorithmic opacity, which may consist in technical illiteracy, i.e. the epistemic limitations of non-experts to understand the algorithm, but also in the nature of machine learning itself, where even experts are unable to explain how the system works.[86] Opacity may also be intentional, where intellectual property rights prevent the disclosure of how the tool works.[87]

In general, opacity limits the principle of equality of arms, but it also limits the reviewability of the result as such. The more complex and sophisticated the instrument, the more difficult it is to assess the accuracy and even the legality of its output. As noted by the Court of Justice, *"given the opacity which characterises the way in which artificial intelligence technology works, it might be impossible to understand the reason why a given program arrived at a positive match"*.[88] Consequently, use of such AI technology *"may deprive the data subjects also of their right to an effective judicial remedy enshrined in Article 47 of the Charter"*.[89]

The opacity of AI tools leads to their prohibition in certain contexts, such as in case of the data processing under the PNR Directive.[90] As the Court of Justice has already

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[84] CJEU, judgments of 22 November 2012, M., C-277/11, EU:C:2012:744, paragraph 88, and of 11 December 2014, Boudjlida, C-249/13, EU:C:2014:2431, paragraph 38.

[85] CJEU, judgments of 5 May 2022, Commission v. Missir Mamachi di Lusignano, C-54/20 P, EU:C:2022:349, paragraph 69; of 10 March 2022, Commission v. Freistaat Bayern and Others, C-167/19 P and C-171/19 P, EU:C:2022:176, paragraph 77; or of 30 November 2016, Commission v. France and Orange, C-486/15 P, EU:C:2016:912, paragraph 79.

[86] For the explanation, see mainly BURRELL, J. How the Machine "Thinks": Understanding Opacity in Machine Learning Algorithms. *Big Data & Society*. 2016, Vol. 3, No. 1, pp. 1–12.

[87] FINCK – FINK, *c. d.*, p. 383.

[88] CJEU, judgment of 21 June 2022, Ligue des droits humains, C-817/19, EU:C:2022:491, paragraph 195.

[89] Ibid.

[90] Article 6(3)(b) of Directive (EU) 2016/681 of the European Parliament and of the Council of 27 April 2016 on the use of passenger name record (PNR) data for the prevention, detection, investigation and prosecution of terrorist offences and serious crime, OJ L 119, 4. 5. 2016, pp. 132–149.

highlighted, the Directive explicitly allows the data processing solely based on "pre-determined" criteria, which means that it *"precludes the use of artificial intelligence technology in self-learning systems ('machine learning'), capable of modifying without human intervention or review the assessment process and, in particular, the assessment criteria on which the result of the application of that process is based as well as the weighting of those criteria"*.[91]

Therefore, a true challenge for actors reviewing the outputs of ADM tools is to understand how the system processes the data, and how it generates the results, in order to assess whether the processing and the results are correct and in compliance with law. A concept, which is discussed in this context especially with regard to advanced ADM tools or AI assisted tools, is *explainability*. However, this concept can have several meanings. The European Commission works with its technical meaning and defines technical explainability as a requirement *"that the decisions made by an AI system can be understood and traced by human beings"*.[92] Nonetheless, even technical explainability is not a definite and homogenous term, because there can be several types of explainability depending on the perspective. As Liga argues, explainability can be acquired (when provided by the source itself), intrinsic (as an intrinsic quality of the target), external (depending on the literacy and comprehension of the target), and contextual (depending on the context in which the explanation is required).[93]

In all these meanings, however, technical explainability refers to the ability of humans to understand how an ADM system works or to analyse individual steps within its processes.[94] It may therefore be understandable to IT or AI experts, but this does not ensure that the output itself will be understandable to administrative officials or lawyers assessing its legality. As Hildebrandt aptly observes, *"an explanation is not the same as a justification"*.[95] The technical explanation will not help a court when it is asked to review an administrative decision based on or supported by an ADM tool, but it is also of little importance to the individual affected by such a decision. For an individual who is not an IT or AI expert, knowing the logic of how the software works is not enough to understand how his or her situation has been assessed and the legal reasons behind the decision. The information about the algorithm, however detailed or meaningful it may be to an IT or AI expert, is not sufficient for an individual affected by an ADM-assisted decision to make a proper appeal against such a decision, nor for a court to conduct a judicial review.

Some authors therefore claim that in the context of ADM or AI-assisted administrative decision-making, the requirement of explainability should be understood

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[91] CJEU, judgment of 21 June 2022, Ligue des droits humains, C-817/19, EU:C:2022:491, paragraph 194.

[92] European Commission, Directorate-General for Communications Networks, Content and Technology. *Ethics guidelines for trustworthy AI* [online]. Publications Office, 2019 [cit. 2024-01-29]. Available at: https://data.europa.eu/doi/10.2759/346720.

[93] LIGA, *c. d.*, p. 2.

[94] Methods how to ensure an explainable AI system described also by Liga in ibid, pp. 5–6. Cf. also FINCK, *c. d.*, pp. 14–16.

[95] HILDEBRANDT, M. Algorithmic Regulation and the Rule of Law. *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*. 2018, Vol. 376, No. 2128.

in terms of *"legal explanation"*,[96] because the duty to give reasons and legal reasoning in general are conceptually different from algorithmic explanation.[97] ADM tools should be used in administrative decision-making in a way that mimics human decision-making. This means that the standard of justification provided with the aid of ADM or AI tools, and hence the standard of reviewability of the final administrative decision, should be the same as that required when a decision is taken without any algorithmic assistance. In other words, the desired standard should be the "human standard for explanation".[98] Regardless of the tool itself, and the design behind it, its output must be legible, meaningful, and understandable to a human being who will assess its legality.

However, this should not mean that the technical or algorithmic explainability is without any legal relevance in terms of the reviewability of the final decision. Knowing how the tool works, what data is processed and why can still be an important part of understanding the final decision and its reasoning.[99] This may even be important for an individual affected by the decision. Even the Court of Justice has stated that, in the context of decisions under the PNR Directive, an individual must be provided with relevant information on how the pre-determined criteria and programs applying those criteria work, so that *"it is possible for that person to decide with full knowledge of the relevant facts whether or not to exercise his or her right to the judicial redress"*.[100] What remains is that the mere explanation of the ADM tool is not enough for a proper legal assessment of the final decision.

Moreover, technical explainability and transparency of the algorithmic system in general[101] remain highly relevant for the administration itself when it employs ADM tools in policy decision-making or when such a tool assists when opting for policy strategies. In such a context, ADM tools have no direct legal effect on individuals, their output is not subject to the obligation to give reasons and they are not intended to be subject to judicial review, but from the perspective of accountability and the principle of good administration, it is nevertheless important for the administration itself to check the quality of such ADM-supported outputs. Administrative authorities need to know what they are using, so not only do they need to be involved in the design and maintenance of the ADM tool, but they also need to be able to check the accuracy of the outputs.[102]

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[96] OLSEN, H. P. et al. What's in the Box? The Legal Requirement of Explainability in Computationally Aided Decision-Making in Public Administration. In: MICKLITZ, H.-W. (ed.). *Constitutional Challenges in the Algorithmic Society*. Cambridge: Cambridge University Press, 2022, p. 222.

[97] Cf. ZŐDI, Z. Algorithmic Explainability and Legal Reasoning. *The Theory and Practice of Legislation*. 2022, Vol. 10, No. 1, pp. 67–92.

[98] OLSEN et al., *c. d.*, p. 226.

[99] Cf. FINCK, *c. d.*, pp. 15–16.

[100] CJEU, judgment of 21 June 2022, Ligue des droits humains, C-817/19, EU:C:2022:491, paragraph 210.

[101] KRAFFT, T. D. – ZWEIG, K. A. – KÖNIG, P. D. How to Regulate Algorithmic Decision-making: a Framework of Regulatory Requirements for Different Applications. *Regulation & Governance*. 2022, Vol. 16, pp. 120–125.

[102] Cf. DALY – RASO – TOMLINSON, *c. d.*, p. 256.

4. CONCLUSION: LET US KEEP ADDRESSING LEGAL CHALLENGES

From the perspective of EU administrative decision-making, ever-increasing computing power, new digital or algorithmic tools and the development of AI offer almost unimaginable opportunities to improve the quality of public administration, making it more objective, more consistent, faster and more efficient. At the same time, however, the use of digital tools and of automated data processing leads to an unprecedented range of potential problems and challenges. Automated processing can put individuals and their fundamental rights at risk. The automation, speeding up and delegation of administrative tasks to machines can also have a negative impact on the transparency and accountability of administrative action in general. Moreover, the devil may be in the detail, because even the supposed accuracy, efficiency and objectivity offered by digital tools may be illusory, as the outputs of such tools can be affected by various types of bias.

It is entirely understandable that public administrations and their officials, with the help of external experts, are experimenting with the possibilities offered by automation and algorithmic governance. However, the potential risks and challenges need to be constantly monitored. To the extent that these challenges are legal in nature, it is also a task for legal scholars to address them. The overview of some of the legal challenges associated with the three levels of use of ADM tools has shown that there are many aspects or even niche issues that require scrutiny and legal assessment. Whether it is data and its processing, ADM tools and their programming, or various types of algorithmic outputs and their further processing or review, there are legal requirements to be observed and therefore a large number of legal issues to be highlighted. Moreover, a more detailed and "zoomed in" analysis would reveal other sets of challenges or problems that deserve a closer look from a legal perspective. The sole phenomenon of the automation of administrative action thus poses a challenge to legal scholars to identify and analyse all potential legal issues.

In addition, the constant development and improvement of the various ADM tools, and the emerging or even experimental nature of automation of administrative action as such, mean that the associated legal issues are a moving target. As a result, any legal analysis or assessment of the tools and their impact is never conclusive. The real challenge for lawyers, including legal scholars, is therefore to keep abreast of technological developments and administrative experimentation, and to keep addressing any legal issues that may arise.

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THE ADVENT OF SPACE ADMINISTRATIVE LAW IN EUROPE[1]

JAKUB HANDRLICA

Abstract: Regulation of any activities in space used to be object of international public law for several decades. This had reflected the fact that states as subjects of international public law used to be the key role in the development of space activities. In the last decade, however, there is a rising tendency to govern space activities also by the means of administrative law. Commercialisation and privatisation of space, developments in space tourism and increasing number of space flights have triggered the need to establish rules on permitting, registration and surveillance. Thus, while space activities were matter of regulation by the means of international public law almost exclusively, there has been a considerable tendency towards governing by the means of administrative law. In many jurisdictions, national space acts were enacted in the last decade. This process underlines the argument on gradual emergence of a space administrative law in Europe.

Keywords: space administrative law; space activities; spaceport

DOI: 10.14712/23366478.2024.26

1. INTRODUCTION

Space law has been traditionally understood as a domain of international public law.[2] Since the 1960s, the governance of space activities has been established primary by the instruments of international public law. These instruments have established basic principles governing the activities of states by exploration and use of Outer Space,[3] rescue of astronauts,[4] international liability or damage caused by space ob-

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

[2] See DIEDERIKS-VERSCHOOR, I. – KOPAL, V. *An Introduction to Space Law*. 3rd ed. Boston: Kluwer Law International, 2008, pp. 12–13; VON DER DUNK, F. International space law. In: VON DER DUNK, F. (ed.). *Handbook on Space Law*. Cheltenham: Edward Elgar, 2015, pp. 20–22; LYALL, F. – LARSEN, F. *Space Law: a Treatise*. London: Routledge, 2018, pp. 10–12 etc.

[3] Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (adopted 5 December 1979, entered into force 11 July 1984) 610 UNTS 205.

[4] Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (adopted 22 April 1968, entered into force 3 December 1968) 672 UNTS 119.

jects,[5] registration of objects launched into Outer Space[6] and activities of states on the Moon and other celestial bodies.[7] The fact is that in all these fields, the instruments of international public law presume the central role of the state in space research, exploration and use. This is also the reason, why the Convention on International Liability for Damage Caused by Space Objects (the Liability Convention)[8] the liability for damages caused by space objects directly to the launching state, rather than to the operator of the object. This mutual interconnection between any space activities on one hand and the state on the other has reflected the traditional notion that the states play a central and very exclusive role in the space domain.

This very traditional constellation has been gradually eroded since the 1990s. Since then, the phaenomena of privatisation and commercialisation of space activities emerged in full scale.[9] Due to technical developments, the costs needed for space endeavours decreased rapidly and consequently, the states have gradually lost their previous monopoly to space exploitation. Today, there are thousands of private corporations, being active in the space industry and thousands of private investors involved. When speaking about the commercialisation of space activities, we are not only referring to the recent endeavours of the corporations such as *Blue Origin*, *Virgin Galactic*, and *SpaceX* in the field of space tourism. Commercialisation of space also entails – for example – plans for manufacturing of pharmaceutics (space pharmacy) and operation of nanosatellites for providing of connectivity services, or for surveillance of cultural heritage. The presentation of prospective space activities, as provided here, is only demonstrative. Much more space activities have been recently announced by private corporations in what we call the *New Space Era*.

With the loss of state's exclusivity in space exploitation, space law has to face a more complicated reality of legal relations to address.[10] Not only mutual relations between the states in space are to be governed, but also the relation between the state and the private corporation with their own commercial interest in space activities. Despite being adopted in the period of the state monopoly on space exploitation, the international treaties provide for certain basic rules, governing the mutual relation between the state and commercial entities in the field of space activities.[11] While declaring the international

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5 Convention on International Liability for Damage Caused by Space Objects (adopted 29 March 1972, entered into force 1 September 1972) 961 UNTS 187.

6 Convention on Registration of Objects Launched into Outer Space (adopted 12 November 1974, entered into force 15 September 1976) 1023 UNTS 15.

7 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (adopted 5 December 1979, entered into force 11 July 1984) 1363 UNTS 3.

8 Art. II. (A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the earth or to aircraft in flight).

9 See LING, Y. The Future of Space Law. In: MULLER, S. – ZOURIDIS, S. – FRISHMAN, M. – KISTEMAKER, L. (eds.). *The Law of the Future and the Future of Law*. Oslo: Torkel Opsahl Academic EPublisher, 2011, pp. 551–554.

10 See CLERC, P. Towards a new legal ecosystem for the exploitation of space. In: SMITH, L. – BAUMANN, I. – WINTERMUTH, S. (eds.). *Routledge Handbook of Commercial Space Law*. London: Routledge, 2023, pp. 5–23.

11 See VON DER DUNK, F. The Origins of Authorisation: Article VI of the Outer Space Treaty and International Space Law. In: VON DER DUNK, F. (ed.). *National Space Legislation in Europe*. Leiden: Brill Publishers, 2011, pp. 3–28.

responsibility of the states for *"national activities in Outer Space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities"*, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (the Outer Space Treaty) also provides in its Article VI that *"the activities of non-governmental entities in Outer Space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty"*. At the same time, the Convention on Registration of Objects Launched into Outer Space (the Registration Convention) provides in its Article II that *"when a space object is launched into earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain"*. These basic rules of mutual relation between the state and commercial entities in the field of space exploration have been subsequently elaborated in national space legislation. The first national space acts were issued in Sweden (1982), United Kingdom (1986), South Africa (1993), Russian Federation (1993) and in Ukraine (1996). In 1997, regional space legislation was also adopted in Hongkong. All these national space acts have transferred the obligations, arising both from the Outer Space Treaty and the Registration Convention into domestic legislation.[12] The last two decades have witnessed a further boom of national space legislation in Europe and beyond. Space acts were adopted in Belgium (2005), Netherlands (2007), France (2008), Nigeria (2010), Austria (2011), Kazakhstan (2012), Indonesia (2013), Denmark (2016), Japan (2016), Greece (2017), Finland (2018), Portugal (2019), United Arab Emirates (2019), Luxembourg (2020), in Slovenia (2022) and most recently on Cyprus (2023).[13] National space acts have been recently under the preparation also in Italy and in Spain.[14] The plan for preparation of a national space act is being also recently discussed in the Czech Republic.

All these developments demonstrate that there has been a considerable substantive shift in space law. While in the past, space law used to be almost entirely a synonym for international space law, the most recent legislative developments support the argument for a gradual emergence of a space administrative law. The scope of this newly emerging space administrative law will be not limited to licencing, registration, and surveillance of space activities. It will also govern the operation of prospective spaceports, rules for emerging commercial space markets, and space tourism.[15] This article aims to further elaborate this line of argumentation by analysing the content of three latest space acts, adopted in the geographical space of Europe. Further, the article aims to argue that not only the very recently adopted national space acts belong to the field of

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12 See HEMIDA, J. *Legal basis for a national space legislation*. New York: Kluwer Academic Publishers, 2004, pp. 73–74.

13 See VON DER DUNK, F. *Advanced introduction to space law*. Cheltenham: Edward Elgar, 2020, p. 152.

14 See SANDULLI, A. The Growth of Space Regulation in Europe. *EU Law Live Weekend Edition*. 2023, No. 165, p. 3.

15 See SMITH, L. – LEISHMAN, R. – THOMPSON, A. Legislating for spaceports, commercial space markets, and space tourism. In: SMITH, L. – BAUMANN, I. – WINTERMUTH, S. (eds.). *Routledge Handbook of Commercial Space Law*. London: Routledge, 2023, pp. 286–297. Also see BOHAČEK, P. Peaceful Use of Lasers in Space: Challenges and Pathways Forward. In: SCHMIDT, N. (ed.). *Governance of Emerging Space Challenges: the Benefits of a Responsible Cosmopolitan State Policy*. Vienna: Springer International, 2022, pp. 155–178.

administrative law, but also the academic scholarship must begin to understand space activities as integral part of the scope of its interest.

2. NEW NATIONAL SPACE ACTS IN EUROPE

PORTUGAL (2019)

In 2019, national space legislation in Portugal was adopted in the form of a decree-law (*Decreto-Lei*), as issued by the Presidency of the Council of Ministers.[16] The decree-law contains an extensive Preamble, which is worth of closer analysis. Firstly, the Preamble explains that *"not only have space activities contributed towards the development of science and research, but also the space sector has become a relevant economic sector itself, in particular in the applications area. The sector of new space industries (known as New Space) integrates a new range of business stakeholders and models capable of attracting private funding, namely for areas such as the launch and operation of mega-constellations of micro and nanosatellites, with significant developments in the access to low-earth and sun-synchronized orbits."* In this respect, the major aim of the newly adopted decree-law has been to provide the space stakeholders with a law that governs space activities in a *"simple, effective and accurate way"*. At the same time, the Preamble clearly states that the newly adopted decree-law has no ambition to presume the legal framework, which will govern the future spaceport in Portugal. Fact is, that the decree-law represents a part of the Portuguese strategy, preparing a complex national legal framework for a future operation of a spaceport, which will be situated in the archipelago of Azores.[17] While the recent decree-law aims to attract potential interest in the future use of space by providing with a transparent permitting framework for space activities, the future pieces of legislation will set rules for the use of the spaceport and its administration. Thirdly, the Preamble declares intention to govern space activities in a *"technologically neutral way"*. Thus, the provisions of the decree-law were drafted with the aims to remain able to be applied to a sector in constant evolution. In this respect, the newly adopted Portuguese space legislation represents another contribution to the long-lasting quest of law for a *technology neutrality*.[18]

The decree-law provides that space activities shall be subject to a compulsory license, which is to be issued by the competent national authority (*Agência Espacial Portuguesa*).[19] In this respect, the decree-law has introduced two specific types of licences, which will authorise launch and/or return operations, as well as for command-and-control operations. A unitary license (*licença unitária*) may be granted, which applies to each type of space operation and is granted to the respective

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16 *Decreto-Lei n.º 16/2019, de 22 de janeiro*.

17 See COCCO, M. – CORREA MENDONCA, H. The Portuguese Space Act: an Innovative Framework for Space Activities. *Air and Space Law*. 2020, Vol. 45, No. 2, p. 157.

18 See GREENBERG, B. Rethinking technology neutrality. *Minnesota Law Review*. 2016, Vol. 100, No. 4, p. 1496.

19 Art. 4.

operator.[20] Also, space activities may be authorised by a global license (*licença global*), that applies to a number of space operations of the same type and is granted to the respective operator.[21] While the general scheme of licensing is in principle very similar to the schemes, as provided in some earlier national space acts – for example in French, Dutch, or Finnish – the decree-law has also introduced several innovations, which seek to attract new operators to Portugal through the simplification of the legal framework.[22] Firstly, the decree-law foresees a possibility to obtain a joint licence for several space operations, even if performed by different operators.[23] Secondly, a simplified licensing procedure may be implemented in certain situations, such as for operations that are carried out exclusively for scientific, R&D, educational or training purposes, or for experimental operations with low risk.[24] Thirdly, a pre-qualification regime has been created to expedite the licensing process, removing the need to resubmit the same information for future licences.[25] Lastly, the newly adopted Portuguese legislation does not only aim to attract *New Space* entrepreneurs to Portugal. It also aims at simplifying of rules for Portuguese entities, planning to carry space activities abroad. In this respect, the decree-law provides that the requirement for a licence can be waived, when following two conditions are met: (a) the operator obtained the required authorizations pursuant to the law applicable in other state and (b) an agreement that ensures compliance with international obligations must be concluded between this state and the Portuguese Republic.[26]

With respect to the licencing of space activities, the decree-law also contains a list of obligations, arising to each licence holder.[27] The license holder shall carry out the following duties:

a) to comply with and abide by international space exploitation principles, namely in terms of space treaties to which the Portuguese Republic is bound;
b) to register space objects it launches or controls, identifying the respective owner;
c) to get the compulsory civil liability insurance required under this decree-law (see below), and to maintain it validly;
d) to predict and duly safeguard against any damage to Earth and the Outer Space, either directly or indirectly; and
e) to comply with all legal and regulatory provisions in force, as well as with conditions provided for in the license granted.

Reflecting potential harm, the space activities may cause to health, property, and the environment, the decree-law provides that licence holder shall be objectively liable for damage caused by the space operation on the Earth's surface or to aircraft in flight.[28]

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[20] Art. 6(1)(a).
[21] Art. 6(1)(b).
[22] See COCCO, M. – CORREA MENDONCA, H. – MELO MIRANDA, C. Portugal. In: WHEELER, J. (ed.). *The Space Law Review*. 4th ed. London: Law Business Research Ltd., 2022, p. 169.
[23] Art. 6(2).
[24] Art. 8(4).
[25] Art. 5.
[26] Art. 4(3).
[27] Art. 9(2).
[28] Art. 19(1).

Thus, the decree-law provides for a direct link between the licence and the liability of the licence holder for damages. The interlink between the licence for space activities and the liability of the licenced person is twofold: Firstly, the decree-law provides for an obligation of a licence holder to obtain compulsory civil liability insurance and – at the same time – to validly maintain it during the whole period of the licensed period. In this respect, the decree-law foresees that the minimum capital to be insured is to be defined in an administrative rule, approved by members of the Government in charge of the finance, science, and technology.[29] Also in this respect, the decree-law has introduced certain innovations. In particular, the insurance may be waived or the insured amount reduced in certain cases, such as for small satellites, space operations carried out exclusively for scientific, R&D, educational or training purposes, or operations with low risk.[30] Secondly, the decree-law reflects the fact that in the international public law, liability for damages caused by space activities is directly linked to the launching state.[31] In this respect, the decree-law provides that *"where the Portuguese Republic, in accordance with international obligations to which it is bound, is accountable for any damage caused by a space object, the State shall have the right of recourse against the operator that, in accordance with this Decree-Law, is responsible for that space object"*.[32] The regime of this recourse right is further elaborated by subsequent provisions of the decree-law. In principle, the recourse right is of limited character. The state can use its right of recourse up to the limits provided for in an administrative rule to be approved by members of the Government in charge of the finance, science, and technology areas. However, this shall not apply where the damage has been caused by intentional fault and serious misconduct of the licence holder, or by a severe breach of obligations, as imposed by the licence. In these cases, the recourse right of the state will have no financial limitation.[33]

Two additional issues, governed by the newly adopted Portuguese legislation, must be mentioned here. Firstly, the decree-law contains provisions on the transfer of a licence[34] and on the transfer of ownership of space objects.[35] The first is subject to authorisation by the competent national authority and the second is subject to notification. Secondly, the decree-law provides that the procedures for the licence, pre-qualification, registration, and transfer of space objects in connection with activities to be developed in the autonomous regions of the Azores and Madeira, are to be established by means of a regional legislative decree.[36] In this respect, a regional space legislation was issued in the Autonomous Region of Azores in 2019.[37]

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29 Ibid.
30 Art. 19(3).
31 Liability Convention, Art. II.
32 Art. 18(2).
33 Art. 18(3).
34 Art. 11.
35 Art. 17.
36 Final Provisions, p. 2.
37 The content of this regional legislation is extensively analysed in COCCO – CORREA MENDONCA – MELO MIRANDA, *c. d.*, pp. 167–168.

In 2020, a national space act was adopted in the Grand Duchy of Luxembourg.[38] In similar vein than in the case of Portugal, also the adoption of the new Luxembourgish space act was a part of a much wider space strategy of this tiny state. The fact is, that during the 2010s, Luxembourg became a commercial space exploration hub. At the very end of 2020s, around 20 space companies have already established their presence in Luxembourg, bringing the total to 50 public and private players.[39] Further, by supporting the creation of SES, one of the biggest satellite operators in the world, Luxembourg has demonstrated its ability to build a favourable environment for the structural development of activities related to the use of outer space.

Reflecting these successful developments in its own space sector, the aims of the Luxembourgish legislation were twofold: Firstly, the major aim was to build a favourable environment for the structural development of activities related to the use of outer space. In this respect, it is necessary to add that the Act on the Exploitation and Use of Space Resources was adopted in Luxembourg already in 2017. Thus, the adoption of the national space act in 2020 represents another step in establishing of a transparent and efficient legal framework. Having said this, one must also bear in mind that the establishment of space legislation is a part of a much wider strategy of the Grand Duchy of Luxembourg to strengthen its position in the diplomatic relations, both at international and EU level.[40] Secondly, the adoption of a new legislation, especially focused towards space activities, has been considered as a necessity due to the increasing number of space activities, registered in Luxembourg. In particular due to the obligations, arising to the Grand Duchy of Luxembourg from the Liability Convention, there was a need to guarantee that only experienced and financially stable companies are conducting space activities.[41]

Similar to the above analysed Portuguese legislation, the newly adopted Luxembourgish space act also stipulates that any space activity requires an authorisation, issued by the competent Minister in charge of the space policy and legislation.[42] This authorisation shall take the form of a ministerial order (*arrêté ministériel*). Further, the national space act of Luxembourg also contains several provisions, which are designed in a very similar way than those in the Portuguese legislation. This is the case of provisions governing withdrawal of authorisation,[43] transfer of authorised activities to a third person[44] and registration of space objects.[45]

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38 *Loi du 15 décembre 2020 portant sur les activités spatiales*.

39 See SERRES, M. How Luxembourg becomes Europe's commercial space exploration hub. *Annales des Mines – Reálités Industrielles*. 2019, No. 2, p. 69.

40 See STEELE, J. Luxembourg and the Exploitation of Outer Space. *Nottingham Law Journal*. 2021, Vol. 29, No. 1, p. 32.

41 See HOFMANN, M. – BLOUNT, P. – LETERRE, G. – SALMERI, A. – ZARKAN, L. *Space Legislation of Luxembourg*. Alphen aan den Rijn: Wolters Kluwer, 2022, pp. 100–102.

42 Art. 5(1).

43 Art. 9.

44 Art. 12.

45 Art. 15.

Facing the dynamic increase of commercial space activities, one of the reasons for adoption of the new space act were the efforts of the Luxembourgish legislature to avoid international responsibility of the Grand Duchy of Luxembourg under the Liability Convention. The national space act itself provides for two mechanisms to minimise such responsibility. Firstly, it provides for a rather elaborated financial and corporate requirements, the applicant needs to fulfil in order to obtain an authorisation.[46] These requirements have roots to much older provisions whose effectiveness has been proven by the success of Luxembourg's financial sector. Rather than creating an entirely separate legal framework for the space sector, the Luxembourgish legislature chose to adapt pre-existing solutions to the regulatory regime applicable to credit institutions under the Financial Sector Act. Consequently, the space legal framework of Luxembourg now imposes on space operators engaged in space activities rules and licensing conditions similar to those applicable to Luxembourgish credit institutions. Having said this, it is worth adding that while the national space act provides for an unlimited liability of the authorised operator for any damages caused during its space activity, including during any preparation works and duties,[47] the Grand Duchy of Luxembourg will bear potential responsibility as the launching state under the Liability Convention. By establishing a very rigorous regime of requirements, the Luxembourgish legislature aimed at limiting the entry to the space industry only to corporations with a very high profile in expertise and financial stability. Secondly, the national space act of Luxemburg contains a provision on the transfer of authorised space activities to a third person.[48] This provision also foresees a potential transfer of authorised space activities to a transferee operator, being not established in the Grand Duchy of Luxembourg.[49] In this respect, it is provided that the competent authority of Luxembourg shall refuse transfer authorisation in the absence of a special agreement with the state of which the transferee operator is a national. Pursuant to this provision, such agreement must guarantee the Grand Duchy of Luxembourg *"against any recourse brought against it on account of its international liability or for compensation for loss or damage"*.[50]

At this place, a major difference can be identified between the newly adopted space regulations in Portugal and in Luxembourg. While the newly adopted national space law of Luxembourg aims principally to facilitate commercial endeavours of private corporations in the space sectors. In contrast to the Portuguese decree-law, the national space legislation of Luxembourg does not provide for any special provisions, applicable to scientific, or research and development activities in space. While the Portuguese legislation is more elaborated and contains a number of simplified procedures, the legislation newly adopted in Luxemburg was designed in a very uniform and streamlined way. The fact is, however, that they both share certain common features.

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46 Art. 6 and Art. 13.
47 Art. 4.
48 Art. 12(1).
49 Art. 12(4).
50 Ibid., in fine.

A national space act was issued in 2022 also in Slovenia.[51] In a slightly different fashion than in the case of Luxembourg, the adoption of the national space act in Slovenia represents a part of a much wider space strategy of this small country in Central Europe. The Slovenian space industry primarily comprises start-ups and small and medium-sized enterprises (SMEs), initially born in the cradle of the academic sector.[52] These entities have been mainly active in engineering and manufacturing of upstream components and platforms, development of ground segment equipment, and exploitation of space data and signals for downstream applications. In September 2020, the aerospace company *SkyLabs* became the first Slovenian company with its own technology in Space when, together with the University of Maribor, they successfully launched the first Slovenian satellite. The TRISAT nanosatellite was entirely designed, manufactured, and assembled in Slovenia.

Slovenia adopted its own national space act primarily to establish a transparent and efficient national framework for space activities to be carried out by private corporations.[53] Similar to the above analysed Portuguese and Luxembourgish legislation, the national space act of Slovenia also provides that space activities shall be only operated based on a licence (*dovoljenje za izvajanje vesoljske dejavnosti*).[54] In similar vein as the above analysed pieces of national legislation, the Slovenian national space act also contains provisions on conditions for issuing a licence,[55] revocation of the licence issued,[56] and the transfer of the licence to another person.[57] However, in a very strict contrast to the previously analysed Portuguese and Luxembourgish legislation, the Slovenian national space also provides that when issuing a licence, the competent authority may ask for an opinion of the European Space Agency.[58] Thus, the Slovenian legislation made a unique step towards a licencing regime, which will only occur on national level, but will potentially include an opinion of a supra-national agency.

The Slovenian legislation also provides for a direct link between the issuance of the licence and the liability of the licenced person. The licence holder shall be strictly liable for any damage caused by their space object on the surface of the Earth or to a vessel or aircraft in flight.[59] This link between the licence and the liability regime is reflected by two mechanism: Firstly, before the launch of a space object into outer space, the licence holder shall take out insurance to cover any damage caused by the space activity to persons or property. In contrast to the Portuguese legislation, which delegated the specification of the amount to be insured to a subsequent administrative rule, the

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51 *Zakon o vesoljskih dejavnostih (ZVDej)*.
52 See PAVLOVIČ, L. Slovenia entering the space. *Electrotechnical Review*. 2016, Vol. 83, No. 3, pp. 81–86.
53 See LESKOVŠEK, A. *Mednarodno pravo vesolja in nacionalne zakonodaje o vesoljskih dejavnostih*. Magistrsko diplomsko delo. Ljubljana: Pravna fakulteta, 2023, pp. 2–3.
54 Art. 4.
55 Art. 5.
56 Art. 12.
57 Art. 13.
58 Art. 9.
59 Art. 16.

Slovenian legislation sets the minimum amount of EUR 60,000,000 per loss event to be insured directly in the text.[60] In this respect, the Slovenian legislation also provides for cases, where insurance will not be required (see below).[61] Secondly, the Slovenian national space act also provides that the state has the recourse right towards the licence holder.[62] The construction of the recourse rights here is very similar to the scheme, as anchored in the Portuguese decree-law. The aim of these provisions is very much the same. They both reflect the international responsibility of the launching state pursuant to the Liability Convention and aim to provide this launching state a legal instrument to reimburse damages from the licence holder, as liable under the national legislation. Having said this, the Slovenian national space act provides for a cap on the amount which is to be reimbursed by the state from the respective licence holder. This cap is in principle limited to the amount insured.[63]

The newly national space act of Slovenia also contains several innovatory provisions. In particular two of them are worth to be mentioned. Firstly, the national space act of Slovenia contains rules for transnational transfer of registered space objects. In this respect, both a transfer of to a corporation, established in another state[64] and the transfer from a corporation, established in another state to the jurisdiction of Slovenia[65] are governed. By establishing rules for these transfers, Slovenia aims to establish a transparent framework for a prospective increase of commercial transactions in space objects in the *New Space Era*. Secondly, the newly adopted Slovenian national space act has also established rules *vis-á-vis* research and development activities in space by providing for special insurance regime for low-risk space activities.[66] When fulfilling certain technical specifications,[67] these space activities will be excluded from the compulsory insurance.

3. SUMMARY

The three newly adopted national space acts, which were briefly presented by this article, clearly illustrate the gradual emergence of a space administrative law in Europe. While all the acts are in principle referring to the rules provided by respective international agreements, they substantially provide for administrative regimes of licencing, registration, and insurance. Thus, they are undeniably part of administrative law, applying the concepts which have been applied by this branch of law already in the past. At the same time, there has been a clear tendency for cross-fertilisation of mechanisms between the various newly established acts.

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60 Art. 6(1).
61 Art. 6(3).
62 Art. 16(3).
63 Ibid.
64 Art. 13(2).
65 Art. 13(3).
66 Art. 6(3). and Art. 6(4).
67 Ibid.

The emergence of space administrative law in Europe has been caused by gradual commercialisation and privatisation of space activities. The fact, national space acts were issued in various jurisdictions has been clearly a reflection of the phaenomenon of the *ubiquity of technology*. At this place, two major consequences of this phaenomenon can be identified. Firstly, the fact, all these acts share in principle the very same basic instruments, support the argument that the newly emerging space administrative law is of transnational character. This is a clear consequence of the *technology ubiquity*. Secondly, the *ubiquity of technology* itself is subject of regulation by the newly emerging space administrative law. Different instruments, governing transfer of rights, arising from the space licences and the transfer of registered space objects have clearly been adopted to regulate this *ubiquity*. At the same time, these instruments currently await their realisation by adoption of particular bilateral agreements, which will certainly soon complement the substance of the space administrative law.

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ARTIFICIAL PUBLIC ADMINISTRATION – MYTH OR REALITY?

RICHARD POMAHAČ

Abstract: The computerization of public administration tasks is a reality. In contrast, the intelligence of public administration is shrouded in myths. For many decades, administrative science has contributed to the clarification of this distinction. Digital constitutionalism and technology-oriented administrative law doctrine have recently been added to this research. The basic regulations, proposed and adopted within individual states, in the European Union and in international organizations, whether it concerns the protection of personal data, cyber security, or artificial intelligence, do establish new tasks for public administration, but they affect methods rather than forms of administrative activity. Emerging technology raises concerns about the ability to understand artificial reasoning and its methods of classification, personalization, and prediction. It is questionable to assume that all actions can be quantified and thus everything becomes objective. Technology compounds the situation and has its own imperative.

Keywords: artificial public administration; digital constitutionalism; algorithmic processing; big data; surveillance; transparency; right to human decision

DOI: 10.14712/23366478.2024.27

1. INTRODUCTION

The computerization of public administration tasks is not a myth. For example, it is known that in the United States, as early as 1890, census data was processed by machine (*Hollerith's Electric Tabulating System*). Half a century later, the first large vacuum-tube computers were used in the civil public sector, for example in complex meteorological calculations.[1] As pointed out by *The Encyclopedia of Digital Government*, the experiments with computers in the 1950s gave birth to the later transformation toward consumer centricity based upon service-delivery opportunities offered by emerging technologies to provide efficiency and effectiveness as well as fairness and equitability.[2]

[1] CHARNEY, J. G. – FJORTOFT, R. – VON NEUMANN, J. Numerical Integration of the Barotropic Vorticity Equation. *Tellus*. 1950, Vol. 2, No. 4, p. 237.

[2] ANTTIROIKO, A. V. – MALKIA, M. (eds.). *Encyclopedia of Digital Government*. London: Idea Group, 2007, pp. xxxvii (preface) and 1540.

In contrast, the intelligence of public administration is shrouded in myths. However, it is necessary to specify what is the real meaning of intelligence and myth. In this context, the aim of my contribution is to explore the phenomenon of artificial public administration.

S. Legg and M. Hutter have very convincingly demonstrated that there are several different meaningful definitions of intelligence based on philosophy, psychology, computer science, and interdisciplinary cognitive science. If researchers scan through the definitions pulling out commonly occurring features, they find that intelligence is related to the agent's ability to succeed or profit with respect to some goal or objective, and it depends on how able the agent is to adapt to different objectives and environments. According to S. Legg and M. Hutter, intelligence measures an agent's ability to achieve goals in a wide range of environments.[3]

Administrative science and to some extent also legal analysis are also very interested in the question of how public administration can realize its goals, what means are available to achieve these goals and what this causes in the social environment. There is a quality firmly built into the concept of intelligence. As aptly reminded by J. Korczak, in an increasingly "smarter world," where increasingly more areas of social life are encompassed by "smart solutions," public administration cannot remain on the outside or in opposition to this process. So, the application of the concept of smart organization should have appropriate reference to public administration, as other concepts, which arose based on ergological sciences.[4]

Public administration in the functional sense is soft technology not tied to physical arrangement and embodied process. It thus corresponds to the current trend of softening technologies and is well described by the definition developed by M. Coccia.[5] Technology is a complex system of artifact selected considering practical, technical, and economic characteristics to satisfy needs, achieve goals, and solve problems. Technology changes current modes of cognition and action to enable makers and/or users to take advantage of important opportunities or to cope with consequential environmental threats.

The intersection of public administration and information and communication technologies is a fertile field for myths. In a simplistic sense, a myth is understood as a fiction or illusion in clear contrast to what may really exist. In the administrative science, this meaning tends to be shifted. The myth represents exemplary role models and tells the story of the demise of the old regime and the arrival of a golden age. As Christensen, Lægreid and Røvik demonstrate, myths are institutionalized and widely spread norms and recipes about appropriate, legitimate organizing – such as what kinds of formal structures, technologies, processes, procedures, and ideologies a modern organization

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[3] LEGG, S. – HUTTER, M. A Collection of Definitions of Intelligence. In: *Proceedings of the 2007 conference on Advances in Artificial General Intelligence: Concepts, Architectures and Algorithms*. Amsterdam: IOS Press, 2007, pp. 17–24.

[4] KORCZAK, J. Smart Administration – Really? Why Not? *Wroclaw Review of Law, Administration & Economics*. Vol. 9, No. 2, 2019, p. 4.

[5] COCCIA, M. What is technology and technology change? A new conception with systemic-purposeful perspective for technology analysis. *Journal of Social and Administrative Sciences*. 2019, Vol. 6, No. 3, p. 154.

should contain. It is an idea which excites, grabs attention, and has achieved exemplary status.[6]

2. ARTIFICIAL ADMINISTRATION AND ADMINISTRATIVE SCIENCE

If we want to distinguish, from the point of view of administrative science, what is real and what is mythical in public administration dependent on information and communication technologies, it is necessary to clarify how natural and artificial administration differ.

This difference was classically defined by Woodrow Wilson when comparing the distinctive features of European-continental and North American styles of governance. It is better to be untrained and free than to be servile and systematic. Still, there is no denying that it would be better yet to be both free in spirit and proficient in practice. It is this even more reasonable preference which impels us to discover what may hinder or delay us in naturalizing this much-to-be-desired science of administration.[7]

Wilson emphasized that the object of administrative study is to rescue executive methods from the confusion and costliness of empirical experiments and set them upon foundations laid deep in stable principle. He wrote this at a time when administrators had no doubt that the results of the population census would be processed better and faster by machine than by the then usual manual method. It was assumed that the machines would make fewer mistakes and that the cost of the administrative routine would be reduced. The sociotechnical vision of the problem did not exceed the instrumental understanding of computerization. Wilson freed administrative science from unnaturalness by adapting it to the requirements of objectivity and rationality. However, in doing so, Wilson brushed aside the conflict between administrative power and American liberty, as we read in the critics of his approach.[8]

The recognition that administrative behavior deviates from the actions of purposeful and coordinated agents led to a reevaluation of the technological concept of public administration. The principle of bound rationality was developed by Herbert A. Simon as an alternative basis for mathematical modeling of decision-making. Administrative behavior is the conduct of actors who satisfy because they do not have the possibility to maximize.

According to Simon, public administration is one of those areas in which people cannot obtain or process all the information needed to make truly rational decisions. Therefore, they try instead to use the information to achieve somewhat satisfactory results. At the same time, Simon described administrators as people bound by their own cognitive limits, which from a social psychological point of view can indicate states of

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6 CHRISTENSEN, T. – LÆGREID, P. – RØVIK, K. A. *Organization Theory and the Public Sector: Instrument, Culture and Myth*. London: Routledge, 2020, pp. 65 ff.

7 WILSON, W. The Study of Administration. *Political Science Quarterly*. 1887, Vol. 2, No. 2, p. 207.

8 HAMBURGER, P. *Is Administrative Law Unlawful?* Chicago: The University of Chicago Press, 2014, p. 459.

dissociation in which a person feels a sense of alienation in relation to themselves and the environment. The human factor is then burdened by reduced commitment, performance, and satisfaction. A depersonalized manager perceives themselves only as an external observer of life, and a depersonalized client perceives public administration only as a reflection on a mobile phone screen. To overcome bounded rationality, Simon suggested that organizations introduce procedural rationality, for example by ensuring that formal processes are followed for gathering, analyzing, and using relevant information and that due care is given before reaching a decision. Simon also distinguishes between empirical phenomena that are artificial and those that are natural. Artificial here refers to systems that acquire their form and behavior by adapting to their external environment. The interface between the external and internal environment characterizes the artificial system. The internal environment becomes important for behavior when the system reaches its limits of rationality and adaptability. The necessity that rises above the contingencies stems from the inabilities of the behavioral system to adapt perfectly to its environment from the limits of rationality. In a nutshell, the artificial world is centered precisely on interface between the inner and outer environments.[9]

Artificial administration should not be confused with technology. Public administration as a human creation is an artificial phenomenon regardless of the sophistication of the instruments it uses. Some predictions of future development sound almost uncompromising. This is how Cary Coglianese predicts that governmental use of automation in the USA driven by artificial intelligence tools will surely spread still further. It is likely to lead to the transformation of or phasing out of many jobs currently performed by government employees. The future state that administrative law will govern will be one of increasingly automated administration.[10] European comparative projects are guided by a similar idea.[11]

It can be argued that the need to identify interfaces between administrative practice and the emerging digital world is an intellectual challenge akin to that faced by experts confronted with the changing welfare state, privatization, and other such paradigm shifts. Administrative lawyers must be part of the discourse on artificial administration. But to be a part of the conversation, it will be necessary to learn the language of technologists and learn about how technology is implemented and how it operates at the front lines of public administration.[12] The question is whether administrative lawyers retrained as legal technologists can agree on the reality of artificial administration. If

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9 SIMON, H. A. *The Sciences of the Artificial*. 3rd ed. Cambridge: The MIT Press, 1996, pp. xii (preface) and 113.

10 COGLIANESE, C. Administrative Law in the Automated State. *Dædalus. Journal of the American Academy of Arts & Sciences*. 2021, Vol. 150, No. 3, pp. 107–108.

11 WOLSWINKEL, J. *Comparative study on administrative law and the use of AI and other algorithmic systems in Administrative Decision-Making in the member States of the Council of Europe*. Strasbourg: Council of Europe Publishing, 2022; *Model Rules on Impact Assessment of Algorithmic Decision-Making Systems Used by Public Administration*: *report of the European Law Institute* [online]. The European Law Institute, 2022 [cit. 2023-11-11]. Available at: https://www.europeanlawinstitute.eu/fileadmin/user_upload/p_eli/Publications/ELI_Model_Rules_on_Impact_Assessment_of_ADMSs_Used_by_Public_Administration.pdf.

12 HARLOW, C. (ed.). *A Research Agenda for Administrative Law*. Cheltenham: Edward Elgar, 2023, pp. 255–256.

we know that public administration is itself an artificial and technological entity, what enables a digital or virtual transformation in the way government works?

Paul Daly pleads this definition: artificial administration is the sociotechnical ensemble of software and hardware that combines technology and process to mine a large volume of digital data to find patterns and correlations within that data, distilling the data into predictive analytics, and applying the analytics to new data.[13] Such a demarcation strongly evokes the replacement or displacement of human decision-makers by automated procedures. Daly immediately reminds that algorithms, neural nets, and predictive analytics certainly have substantial potential to improve the scale and efficiency of government in the provision of public goods and services, but clarity is needed about where and how they can properly be used. At stake is the clash of value systems that awaits us between technologists who insist on the power of correlation and lawyers who refuse to bow to the ancient principle of causation.

Defining artificial administration as an ensemble of technology and process means that we are guessing how artificial intelligence will develop, which is rather immodest. The notion that technology comprises more than artifacts has been widely accepted for more than half a century.[14] Just the new context of artificial intelligence is forcing us to consider the correlation of a computational artefact together with the human behavior and sociotechnical ensembles as combinations of artefacts, human behavior, social arrangements, and meaning.

It cannot be overlooked that Dale's definition of artificial administration targets Big Data. It is possible to agree with Cohen's reasoning that since the nineteenth century, new communications and media technologies have been portrayed as forerunners of utopia. Earlier thinkers expected electric communication technologies to annihilate space and time; today, we call upon networked digital technologies to finish that task, accomplishing what mere electricity could not.[15]

In order to deal with the futurology of public administration, it is necessary to look back. The reference points in the last century are the 1960s and 1990s. In the 1960s we see the peak of the wave that started two decades earlier with the construction of the electronic digital computer and the discovery of the principle of bounded rationality of public administration. It was also then that the field called jurimetrics began to develop. Jurimetrics is the application of quantitative methods, and often especially probability and statistics, to law. Many years ago, the development in this field was well predicted by Oliver Holmes in famous words: *"For the rational study of the law the blackletter man may be the man of the present, but the man of the future is the man of statistics and the master of economics."*[16]

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[13] DALY, P. *Artificial Administration: Administrative Law in the Age of Machines* [online]. Ottawa Faculty of Law Working Paper No. 2020-03. Ottawa: University of Ottawa, Faculty of Law, 2019, p. 1 [cit. 2023-11-11]. Available at: https://ssrn.com/abstract=3493381.

[14] WOODWARD, J. (ed.). *Industrial organisations: behaviour and control*. London: Oxford University Press, 1970.

[15] COHEN, J. E. *Configuring the Networked Self: Law, Code, and the Play of Everyday Practice*. New Haven: Yale University Press, 2012, p. 31.

[16] HOLMES, O. W. The Path of the Law. *Harvard Law Review*. 1897, Vol. 10, No. 8, p. 469.

The work of Niklas Luhmann cannot be neglected in this context. His work on automation in public administration was preceded by reflections on how administrative lawyers can be taken out of their usual composure and how computers can cause them many unexpected problems.[17] In short, automation is an important subprogram of administrative simplification. At the same time, it frees us from the illusion that administration would become easier through simplification. Luhmann somewhat provocatively wrote in 1966 that it is not advisable to confuse this process in public administration with the introduction of new office machines, better computing devices and the like, although it is not clear whether the difficulty of finding programmers is really a long-term problem. It could be that programmers will be out of work tomorrow, mourning their heyday like California gold miners, because machines will be able to program themselves. This is the uncertainty that comes with the volatility of things and the rapid pace of development.[18]

The 1960s are marked by second order cybernetics which is the recursive application of cybernetics to itself and the reflexive practice of cybernetics according to such a critique. Political and administrative cybernetics was characterized by the view that society as a whole system had become functionally differentiated. The contrast between machines and organisms was largely pushed into the background and attempts were made to make the conceptual world of machine theory or organism theory useful, and not just metaphorically, for the understanding of interpersonal forms of organization.

Next comes the period of 1970–1990. It was clear that theoretical studies had led to experimental applications of limited scope, difficult to scale in real scenarios due to the cost and complexity of representing and maintaining the necessary amount of information. Furthermore, it was clear that not all information can be represented in symbolic form. The attempts to manage sub-symbolic information, as in the case of the first connectionist models, clashed with the limits of such computational structures.

Researchers had begun to realize that achieving artificial intelligence was going to be much harder than was supposed. However, this period also saw successes in experimentation with expert systems. Relevant number of works have been carried out concerning legal reasoning based on open-textured concepts, preferences over rules in non-monotonic reasoning, and models for adversarial legal reasoning. It is also significant that at the beginning of this period Spiros Simitis authored the *Data Protection Act for the State of Hessen* which came into force on 13 October 1970 and is widely seen as the world's first statute on data protection. It was an essential reaction to the constant refinement and evolution of emerging technology.

The 1990s are mainly marked by the mastery of the phenomenon of Big Data and Big Brother. Big data usually includes data sets with sizes beyond the ability of commonly used software tools to capture, curate, manage, and process data within a tolerable elapsed time. Big Brother is a fictional character and symbol in George

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[17] LUHMANN, N. *Recht und Automation in der öffentlichen Verwaltung*. Berlin: Duncker & Humblot, 1966, pp. 10–11.

[18] LUHMANN, N. Automation in der öffentlichen Verwaltung. In: LUKAS, E. – TACKE, V. (eds.). *Schriften zur Organisation*. Bd. 4. Wiesbaden: Springer VS, 2020, pp. 3–4.

Orwell's dystopian novel *Nineteen Eighty-Four* as well as the book of John Lennox *2084: Artificial Intelligence and the Future of Humanity*.

Van Dijck aptly wrote that the industry-driven datafication view resonates not only in entrepreneurs' auspicious gold rush metaphors, but also in researchers' claims hailing Big Data as the holy grail of behavioral knowledge.[19] And we can add with Karen Yeung that a so-called Big Data revolution is currently underway, which many claim will prove as disruptive to society in the 21st century as Henry Ford's system of mass production in the late 19th century.[20]

Surveillance technology is improving so much that it is becoming a common tool of public administration in certain situations. As far as surveillance is concerned, not individual decision-making, the current legislation opens the door to the data revolution wide open. A suitable example can be the provision of Article 10 of French *Law No. 380 of 19 May 2023, relating to the 2024 Olympic and Paralympic Games*: *on an experimental basis and until 31 March 2025*, for the sole purpose of ensuring the security of sporting, recreational or cultural events, images collected by means of video protection systems, or by means of cameras installed on aircraft may be subject to algorithmic processing. *Conseil constitutionnel* did not find this provision unconstitutional in principle, because the legislature has ensured that the development, implementation, and possible developments of algorithmic processing remain permanently under the control and mastery of human persons.[21]

A. Stepanov adds to this that mastery is imposed not only in terms of control but also as an obligation to understand the functioning of surveillance. The planned machine learning system won't make any individual legal decision, nor will it support or serve as evidence for future decisions. These limitations of the algorithm's contribution allowed the lawmaker to significantly limit the right to an explanation, making it nearly non-existent. The only guarantee provided by the law is that the public should be informed in advance of the use of such algorithmic processing unless circumstances dictate otherwise.[22]

3. DIGITAL CONSTITUTIONALISM AND ADMINISTRATIVE LAW

The idea of good governance in the era of global society, borderless communication networks, and artificial intelligence is linked to the need to revise and supplement our idea of legal protection of freedom of expression and privacy. However, digital constitutionalism is not only understood in the sense of reinterpreting some basic rights and freedoms. It also responds to the three carrier waves in which the foundations

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[19] VAN DIJCK, J. Datafication, dataism and dataveillance: Big Data between scientific paradigm and ideology. *Surveillance & Society*. 2014, Vol. 12, No. 2, p. 199.

[20] YEUNG, K. Algorithmic regulation: a critical interrogation. *Regulation & Governance*. Vol. 12, No. 4, 2018, p. 505.

[21] Décision No. 2023-850 DC du 17 mai 2023.

[22] STEPANOV, A. Easy to learn, hard to master: the challenge of intelligible AI in French administration. In: *The Digital Constitutionalist* [online]. [cit. 2023-11-11]. Available at: https://digi-con.org/easy-to-learn-hard-to-master-the-challenge-of-intelligible-ai-in-french-administration.

of the current regulation of information and communication technologies were created. It was, firstly, an adjustment to the protection of privacy and personal data, secondly, the creation of cyber security and digital resilience, and thirdly, the regulation of artificial intelligence.

Ripples reacting to various aspects of the phenomenon that we still, perhaps out of inertia, call cyberspace are separated from these waves. However, it is not just about demanding activities that would be impossible without digital interaction. Even in normal practice, we thus find ourselves in the space of augmented reality connecting the physical world with the world of its digital twin. The relevant information is located somewhere, but it is also virtually present at any accessible point on the network. Therefore, we can also define virtuality as a property of phenomena that appear as if they were real.

This topic is sometimes written about rather enthusiastically. E. Celeste claims that digital constitutionalism represents the conceptual lymph of the current constitutional moment. Analogue norms are no longer able to address the full range of complexities of the virtual environment. A series of normative counteractions are emerging to implement the principles of a constitutionalism rethought for the digital age.[23]

Digital constitutionalism can help the development of digital administrative studies in a similar way as administrative law was constitutionalized in the past. Considerations about the concept of digital law go far beyond the scope of public administration. The basic regulations, proposed and adopted within individual states, in the European Union and in international organizations, whether it concerns the protection of personal data, cyber security, or artificial intelligence, do establish new tasks for public administration, but they affect methods rather than forms of administrative activity. As Giovanni De Gregorio rightly reminds, the rise of European digital constitutionalism can be described as a long process if it is compared with the rampant evolution of the digital environment in the last twenty years. The turn has not been immediate but has gradually followed a path towards the integration of economics with constitutional values, while digital technologies provided opportunities to offer cross-border services and exercise individual freedoms.[24]

The norms formed outside of statutory law, in jurisprudence and established administrative practice are also important for public administration, whether it is the sense of openness and transparency of administrative activities, the purpose of processing large volumes of data, or depersonalization in the form of contacts with administrative robots. Virtuality is inherently linked to the expansion of information and communication technologies. If we also understand public administration as a technology of governance in cyberspace, we can choose between an optimistic and a pessimistic vision. Advanced information and communication technologies can either help or harm. The reality mediated by smart machines is an image of artificial administration, which can lead to de-bureaucratization and a reduction in the complexity of public administration.

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[23] CELESTE, E. *Digital Constitutionalism: the Role of Internet Bills of Right*. London: Routledge, 2023, p. 84.

[24] DE GREGORIO, G. *Digital Constitutionalism in Europe: reframing Rights and Powers in the Algorithmic Society*. Cambridge: Cambridge University Press, 2022, p. 38.

However, new technologies can also have an oppressive potential and lead to public administration becoming an intolerable control monster.

The use of artificial intelligence resources, which is gaining intensity after 2010, leads to the question of whether the standards of technologists will not surpass the standards of lawyers and whether the current legal principles in public administration can be sufficient. If we apply the principle of legality to computer discretion, does this mean that a black box of algorithms must be opened? And if we want to facilitate communication with the authorities and if we request that the authorities use the available data, are we not at the same time creating space for the authorities to know about us even what is not relevant for official activity? Do we know enough about how interoperability works and how smart data networks are being improved to assess the proportionality of administrative decisions?

Virtuality is gaining momentum as cyberspace has become a social arena that includes all public administration actors who use advanced information technologies to interact. In cyberspace, public administration communicates, makes decisions and controls as in real life. Decisions that have a significant impact on the individual or the community should be acceptable and satisfactory even regarding the required level of autonomy of the artificial interaction. If social relations are mediated by technologies based on algorithmization and artificial intelligence, not only trustworthiness is at stake, but also flexibility allowing to adapt to different situations.

The principle of virtuality in public administration is associated with the fears of losing control over key decisions. This point of view is expressed by the discussion of the right to human decision, or on the right to well-calibrated automatic decision-making. Complex technology raises concerns about the ability to understand artificial reasoning and its methods of classification, personalization, and prediction. Therefore, there is talk of the problem of the readability of artificial decision-making and the expanded scope of regulation of artificial intelligence. Legislation is guided by this intention, both in terms of the right to digital services and in relation to algorithmic rights and information security.

At the turn of the millennium, the American administrator and former adviser to the Reagan government, James Colvard, published a reflection on the fact that the main manifestations of the depersonalization and non-regulatory trend of public administration are not primarily connected with information and communication technologies, but with managerial innovations, depersonalizing the processes of governance within the bureaucracy. Colvard compared the situation in the administration to what happens in sports clubs. In the past, local sports teams would develop young players through their farm systems, and fans would become familiar with them as their careers developed. The fans would agonize over their failures and delight in their achievements. Now with free agency, players simply market themselves as a capability. Fans literally need a reference guide to know the players.[25] Public administration is also threatened with similar alienation, and one can only believe that digital constitutionalism and administrative

[25] COLVARD, J. Restore the Human Touch. In: *Government Executive* [online]. January 2000 [cit. 2023-11-11]. Available at: https://www.govexec.com/magazine/2000/01/restore-the-human-touch/5898.

law can prevent this. It is questionable to assume that all actions can be quantified and thus everything becomes objective. Technology compounds the situation and has its own imperative.

4. CONCLUSION

Public administration is experiencing a turning point. Twenty years ago, there was mostly optimistic cheer about the fact that the administrative state did not fall asleep due to emerging technological and political challenges (e-government, e-democracy). Currently, caution prevails. As C. Kamper recalls, media and academia are torn between marveling at the increasing capabilities of Machine Learning algorithms and succumbing to the anxiety of their opacity and unmanageable complexity. Citizens might perceive the authority's decision as even more opaque and imponderable than the decisions of a human, despite the inscrutability of human decision-making. They will experience algorithmic decision-making to be Kafkaesque.[26]

The aim of this paper was to clarify the context of artificial public administration and to raise questions that administrative science must deal with intensively. Briefly, the opinions presented can be summarized as follows.

Human-level machine intelligence is not a myth, but its inevitability is a myth. Today's public administration can function as a virtual organization that uses digital technology and artificial intelligence to achieve its goals and tasks more than physical presence and face-to-face contact.

In cyberspace, large volumes of data can be processed, decisions can be made automatically, and intelligent behavior can be imitated. However, it is not just about demanding activities that would be impossible without digital interaction. We can hardly imagine that in routine agendas, offices could function without computers. Even in normal practice, we thus find ourselves in the space of augmented reality connecting the physical world with the world of its digital twin. The relevant information is located somewhere, but it is also virtually present at any accessible point on the network. Therefore, we can also define virtuality as a property of phenomena that appear as if they were real.

If we want things to stay the way they are, things will have to change. A witticism like this lends itself well to the administrative science. Scott, Donadelli a Merton hit the nail on the head: we may be entering a period of New Public Complexity, where administrative doctrines are blended and layered.[27] We want public administration to be both transparent and reliable, friendly and decisive, efficient and economical, legal and fair, and artificial and natural. Information and communication technologies can correspond

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[26] KEMPER, C. Kafkaesque AI? Legal Decision-Making in the Era of Machine Learning. *University of San Francisco Intellectual Property and Technology Law Journal*. 2020, Vol. 24, No. 2, pp. 292–293.

[27] SCOTT, R. J. – DONADELLI, F. – MERTON, E. R. K. Administrative philosophies in the discourse and decisions of the New Zealand public service: is post-New Public Management still a myth? *International Review of Administrative Sciences*. 2022, Vol. 89, No. 4, pp. 941–957.

to all these values, but probably not consistently. Theoretical reflection is therefore not coherent and administrative doctrines can only be identified retrospectively.

All that remains to conclude is to recall what computer science professor P. M. Domingos wrote in 2015: *"People worry that computers will get too smart and take over the world, but the real problem is that they're too stupid and they've already taken over the world."*[28] And it is fitting to add, as S. Chesterman does: *"Much of the literature on AI and the law focuses on a horizon that is either so distant that it blurs the line with science fiction or so near that it plays catch-up with the technologies of today."*[29]

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[28] DOMINGOS, P. *The Master Algorithm: How the Quest for the Ultimate Learning Machine Will Remake Our World*. New York: Basic Books, 2015, p. 286.

[29] CHESTERMAN, S. *We, the robots? Regulating Artificial Intelligence and the Limits of the Law*. Cambridge: Cambridge University Press, 2021, p. 11.

NATIONAL REPORTS

NATIONAL REPORT ON AUTOMATION IN DECISION-MAKING IN PUBLIC ADMINISTRATION IN SLOVAKIA[1]

RADOMÍR JAKAB

Abstract: The development of information technology and its use in everyday life must inevitably have an impact on public administration and its decision-making. Progress in artificial intelligence is also opening up wider opportunities for the use of automation of decision-making processes in public administration. Decision-making processes that once had to be handled by humans can now be automated. However, there must be a sufficient legal basis for this, setting out the legal limits of such automated decision-making. In this paper, the legal possibilities of automation of decision-making processes in the field of public administration in the Slovak Republic were examined, the obstacles that hinder the use of this tool were defined, as well as certain legal solutions eliminating or minimizing the consequences of these obstacles were outlined. The purpose of this paper was not to exhaustively describe and solve the problems with the automation of decision-making processes in public administration in the Slovak Republic. Rather, the purpose was to outline the problem areas that should be addressed in legal research in the coming period.

Keywords: public administration; automation; decision-making; decision; artificial intelligence

DOI: 10.14712/23366478.2024.28

INTRODUCTION

The last decades are marked by the rapid development of information technology and its implementation in everyday life. This applies both to the private sphere of individuals and to the sphere of business or state activity. Although the state is less flexible than the private sector in adopting new electronic trends, it cannot fail to respond to them in its activities. Recently, individual states have been faced with the requirement to ensure the electronification of the activities of the state apparatus and to ensure electronic communication between the state and the individual or legal entity.

Today, countries face a new challenge connected with the development and use of artificial intelligence. On the one hand, it will be necessary to establish the legislative framework for this instrument. On the other hand, it will be necessary to consider to

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

what extent it can also be helpful in the context of processes implemented by the state. That is, to what extent can artificial intelligence also be used in the context of state decision-making processes. Some countries are already tackling this challenge, others will have to start doing so. The Slovak Republic belongs to the latter category. Thus, in the near future it will be necessary to start addressing the possibilities of using artificial intelligence in decision-making processes in the judiciary, as well as in the field of public administration and other state activities. However, there is also a second aspect, which is the need to maintain legality in its use and to protect the fundamental rights and freedoms of individuals.

One of the ways of using artificial intelligence in decision-making processes is to automate decision-making processes. The use of automated decision-making (ADM) is on the increase not only within the private sector (banks, insurance companies, etc.), but also within the public sector, where it may be considered suitable for various decision-making processes within public administration.[2] When automation of decision-making is used in the service of public administration, the objective is to produce a decision that involves the exercise of public law in a manner that defines, for an individual or for a private legal entity, a particular right, duty or benefit on the basis of material legislation.[3]

The aim of this paper is to examine what are the legislative possibilities for the use of automation in decision-making processes in the field of public administration in the Slovak Republic, or what are the barriers to its effective use. Based on this, it is then possible to formulate certain recommendations for eliminating the barriers and pointing out the weaknesses related to the automation of decision-making processes within the Slovak Republic. The purpose of this paper is not to exhaustively address the problems identified, but only to identify them, while further research can be oriented towards finding appropriate solutions to those problems.

The concept of Artificial Intelligence (AI) has been a subject of scientific interest for several decades.[4] It can be simplistically characterized as a replication of human analytical and/or decision-making capabilities.[5] It can be differentiated between weak

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[2] See details in SUKSI, M. On the openness of the digital society: from religion via language to algorithm as the basis for the exercise of public powers. In: LIND, A. S. – REICHEL, J. – ÖSTERDAHL, I. (eds.). *Transparency in the future – Swedish openness 250 years*. Tallinn: Ragulka Press, pp. 285–317.

[3] SUKSI, M. Administrative due process when using automated decision-making in public administration: some notes from a Finnish perspective. *Artificial Intelligence and Law* [online]. 2021, Vol. 29, No. 1, pp. 87–110 [cit. 2023-12-07]. Available at: https://link.springer.com/10.1007/s10506-020-09269-x.

[4] E.g., MINSKY, M. L. *Computation: Finite and Infinite Machines*. Englewood Cliffs, N. J.: Prentice Hall, 1967; TURING, A. M. I. Computing Machinery and Intelligence. *Mind* [online]. 1950, Vol. LIX, No. 236, pp. 433–460 [cit. 2023-12-07]. Available at: https://academic.oup.com/mind/article/LIX/236/433/986238; FINLAY, S. *Artificial Intelligence and Machine Learning for Business: a No-nonsense Guide to Data Driven Technologies*. Great Britain: Relativistic Books, 2017; MAINZER, K. *Künstliche Intelligenz – Wann übernehmen die Maschinen?* Technician im Focus. Berlin, Heidelberg: Springer, 2016; BAKOŠOVÁ, L. Climate Action Through Artificial Intelligence: International Legal Perspective. *Studia Iuridica Cassoviensia* [online]. 2022, Vol. 10, No. 2, pp. 3–24 [cit. 2023-12-07]. Available at: https://zenodo.org/record/7115298; BAKOŠOVÁ, L. Ethical and Legal Aspects of the Use of Artificial Intelligence in Health and Nursing Care. *Studia Iuridica Cassoviensia* [online]. 2020, Vol. 8, No. 2, pp. 3–18 [cit. 2023-12-07]. Available at: https://zenodo.org/record/5115457.

[5] FINLAY, *c. d.*

AI, strong AI, and sometimes even super intelligence. Weak AIs are usually developed and used for a specific type of applications, including expert systems, speech recognition, navigation systems, and translation services.[6] Applications based on weak AI are already widely used today; they even gained entry in the everyday life in the form of intelligent search suggestions or optimized route calculations. Within the theory of multiple intelligences, weak AIs are primarily the replication of linguistic and logical-mathematical intelligence.[7] By contrast, strong AIs describe systems that are able to independently think, plan, learn and make logical decisions under uncertainty.[8] The concept of super intelligence is based on a system that is intellectually superior to any human being. Such a system should therefore be able to map all dimensions of multiple intelligences better than any human being.[9]

Taking into account such a distinction of artificial intelligence, we proceed from the hypothesis that in the conditions of the Slovak Republic under the current legal situation, the use of weak AI in the automation of decision-making processes in public administration, i.e., automation consisting in the simulation of human thinking based on linguistic and logical – mathematical intelligence, comes into consideration. At the same time, we also assume that the current legal framework does not allow for the automation of the entire administrative decision-making process, but only in its partial phases, while the human element is indispensable.

The research, the results of which are contained in this paper, mainly uses basic research methods typical for legal sciences. First of all, the method of analysis is used, especially in the form of analysis of legal regulation of legal provisions setting the limits for the application of automation in decision-making processes in public administration. On the basis of the results of the analytical stage, the knowledge obtained is synthesized into certain units in the form of drawing conclusions on the extent of the permissibility of such decision-making. In addition, it is necessary to apply the methods of explanation and description in order to describe the institute under research more adequately.

1. LEGAL BASIS FOR AUTOMATION OF DECISION-MAKING PROCESSES IN PUBLIC ADMINISTRATION

One of the prerequisites for decision-making processes in public administration to be automated is the existence of a proper legal basis. This is a requirement arising from the principle of legality, which is the essence of the rule of law. In the Slovak Republic, this principle is defined in Art. 2(2) of the Constitution of the Slovak Republic,[10] according to which "[s]*tate authorities may act only on the basis of the*

[6] MAINZER, *c. d.*

[7] ETSCHEID, J. Artificial Intelligence in Public Administration. In: LINDGREN, I. – JANSSEN, M. – LEE, H. – POLINI, A. – RODRÍGUEZ BOLÍVAR, M. P. – SCHOLL, H. J. – TAMBOURIS, E. (eds.). *Electronic Government* [online]. Lecture Notes in Computer Science, Vol. 11685. Cham: Springer, 2019, p. 250 [cit. 2023-12-07]. Available at: https://link.springer.com/10.1007/978-3-030-27325-5_19.

[8] MAINZER, *c. d.*

[9] Ibid.

[10] Constitution of the Slovak Republic No. 460/1992 Sb. As amended.

Constitution, within its limits and to the extent and in the manner prescribed by law". It therefore follows that any automation of decision-making processes in public administration must have its basis in law.

Furthermore, the requirement for a legal basis for the automation of decision-making processes is also inferred from Art. 22(1) & (2) of the General Data Protection Regulation.[11] According to par. 1 of this provision: *"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 significantly affects him or her."* The following paragraph sets out exceptions to the rule, one of which is that such decision-making *"is authorised by Union or Member State law to which the controller is subject and which also lays down suitable measures to safeguard the data subject's rights and freedoms and legitimate interests"*.[12] Although this Regulation applies to the protection of personal data, it will be relevant for all decision-making processes, as the addressees are always the persons holding their personal data.[13] Therefore, this requirement for the existence of a legal basis is also essential.

In the Slovak Republic, the general regulation governing the procedure in which administrative authorities decide on the rights, legally protected interests, or obligations of natural persons and legal entities in the field of public administration is the Administrative Procedure Code.[14] In addition, there are other specific procedural acts that regulate decision-making processes in certain defined areas,[15] or supplement or modify the general legal regulation in the Administrative Procedure Code for the purposes of decision-making processes in certain areas.[16] On the basis of a review of these legal provisions, it can be concluded that none of the laws regulating decision-making in the field of public administration provides for the possibility of automating the process with the exclusion of human interference. The legal requirements in these processes are based on the fact that the decision is taken by an administrative authority acting through the staff of that administrative authority. Thus, in the current state, it is not possible for the entire decision-making process from its beginning to its end to be fully automated without human intervention, i.e., full automation in administrative decision-making processes is not possible.

However, it is not excluded, and is used in practice, that automation exists within a certain stage, a phase of the decision-making process. However, it is inevitable under

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[11] Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation).

[12] Other exceptions are that the decision-making is necessary for entering into, or performance of, a contract between the data subject and a data controller and that the decision-making is based on the data subject's explicit consent.

[13] Details in HUČKOVÁ, R. Zásady spracovania osobných údajov podľa GDPR so zreteľom na oblast poskytovania zdravotnej starostlivosti. *Studia Iuridica Cassoviensia* [online]. 2020, Vol. 8, No. 2, pp. 30–44 [cit. 2023-12-07]. Available at: https://zenodo.org/record/5115470.

[14] Act No. 71/1967 Sb., on Administrative Proceedings (Administrative Procedure Code), as amended.

[15] E.g., Act No. 563/2009 Sb., on tax administration (Tax Procedural Code), No. 9/2010 Sb., on complaints, as amended.

[16] E.g., Act of the National Council of the Slovak Republic No. 372/1990 Sb., on offences as amended, Act No. 50/1976 Sb., on urban planning and building regulations (Building Act) as amended.

the current legal basis that the decision is ultimately taken by a specific person acting on behalf of the administrative authority, even though part of the process has been automatic. Administrative decisions are primarily legal decisions. If the general psychological model of decision-making is adapted to a legal case, the administrative procedure can be divided into seven main phases (whereby said phases can be subdivided into several partial decisions): i) Recognition of the problem, ii) Fact-finding, iii) Norms finding and norms concretization, iv) Application of law and subsumption, v) Legal consequence analysis, vi) Realization, and vii) Evaluation.[17] Automation can essentially cover each of the above phases. Although most often it will be in the first or second stage.[18] For example, the information system will automatically assess which new property owners have not filed a tax declaration based on data from the Land Registry. This identified the problem, i.e., failure to file a tax declaration in case the person was required to do so. Thus, the prerequisite for the initiation of sanction proceedings was given. As a result, it can be concluded that under the current legal situation, "partial" automation of decision-making processes in public administration is possible, with automation taking place at some stage of the process, while preserving the interference of human influence on the overall outcome of the decision-making process.

If full automation of the decision-making process were to be allowed, a legislative change would be necessary to establish the legal basis. The legal basis for full automation can be constructed either generally or specifically for a given decision-making process. In the case of general regulation, it would be possible to take inspiration from the German model. The Federal Administrative Procedure Law basically permits the full automation of all administrative procedures if there is no necessity for assessment or discretion and if a specific legal regulation has been made for the individual process.[19] Thus, following the German model, it would be possible to add a general provision in the Administrative Procedure Code stating that: *"Proceedings under this Act may also be carried out by automated tools using information technologies, except in cases requiring administrative discretion, while more detailed conditions for such proceedings to be determined by law."*

At the same time, it would be possible to establish a legal basis for full automation for each specific decision-making process in the public administration. Thus, a procedural rule regulating the specific decision-making would both provide for the possibility of full automation of this decision-making process and would also set out the conditions for its implementation. Of course, in that case, there would be specific conditions for each automated decision-making process, which could lead to differences in regulation.

It should also be pointed out that the Artificial Intelligence Act has recently been approved at European Union level and has take the form of a regulation.[20] On 13 March

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17 ERBGUTH, W. – GUCKELBERGER, A. *Allgemeines Verwaltungsrecht: mit Verwaltungsprozessrecht und Staatshaftungsrecht*. 9. Aufl. Baden-Baden: Nomos, 2017.

18 See also ETSCHEID, *c. d.*

19 BRAUN BINDER, N. *Weg frei für vollautomatisierte Verwaltungsverfahren in Deutschland* [online]. Zurich Open Repository and Archive, University of Zurich, 2016, pp. 2–12 [cit. 2023-12-07]. Available at: https://www.zora.uzh.ch/id/eprint/141625/1/Braun_Binder_Jusletter-IT_weg-frei-fur-vollaut_56bc7ccb4c_de.pdf.

20 Regulation of the European Parliament and of the Council laying down harmonized rules on Artificial Intelligence ä Artificial Intelligence Act) and amending certain union legislative acts. Proposal is available

2024, European Parliament agreed on the final version of what is claimed to be the world's first-ever comprehensive legal framework on Artificial Intelligence. This regulation will also significantly affect the possibilities of using artificial intelligence in the automation of decision-making processes in public administration. These automated processes will generally be among the so-called high-risk AI systems. In relation to them and their operation, the Regulation imposes extensive obligations on their operators, e.g., in the form of event logging, thus ensuring a level of traceability of their operation that is proportionate to the intended purpose of the system. Given that the regulation in question has not yet been approved by Council of the European Union, nor has it entered into force, as well as the fact that the examination goes beyond the intended goal of this article, it will not be analyzed in detail. However, it will be a challenge for further research on the issue.

2. BARRIERS TO FULL AUTOMATION OF DECISION-MAKING PROCESSES IN PUBLIC ADMINISTRATION

Assuming that the legal basis for the full implementation of automated decision-making in public administration is established, it will not be possible to apply such automated decision-making to all decision-making processes. Not all decision-making in public administration is capable of automation. Both legal and factual circumstances hinder this, i.e., there are barriers to full automation. In the following, I try to identify some of the barriers in the Slovak Republic, but this is not an exhaustive list.

Each decision-making process internally consists of a greater or lesser number of partial processes corresponding to the different decision-making phases, which build on and influence each other. The realization of one of the sub-processes triggers another, thus creating a kind of process cycle. The individual sub-processes are different in their properties and effects.[21] Some sub-processes are characterized by their programmability and conditionality (this is the case of if-then). But other sub-processes are characterized by their openness in terms of the exercise of discretion and free assessment. If we start from the current state of the possibilities of applying weak intelligence in decision-making processes in public administration, then automation comes into consideration especially in relation to such processes, which are characterized by programmability and conditionality. Although, automation will be difficult or even impossible for processes based on discretion.

However, it is possible that automation may also be possible in the future for such discretion-based decision-making processes. But that would no longer be a weak artificial intelligence, but a strong artificial intelligence based on machine learning. However,

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online in: *EUR-Lex: Access to European Union Law* [online]. [cit. 2024-03-25]. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:52021PC0206.

[21] JAKAB, R. Verejnosprávny cyklus v správnych procesoch. *Public administration and society*. 2010, Vol. XI, No. 2, pp. 12–8.

there are a lot of downsides to this, particularly from a legal perspective.[22] An automated decision-making system would have to be constantly maintained, updated by a human. Changes in law or case law would have to be periodically inserted as new software rules.[23] At the same time, it would be difficult to ensure the transparency of an automated decision-making system based on machine learning in order to provide an individual with a relevant explanation of how and on what information the system reached a particular conclusion.[24] And finally, machine-learning techniques in ADM for making administrative decisions cannot work in a rule of law situation because machine-learning is actually based on predictions, where a new decision is made on the basis of a data pool of previous decisions.[25]

Another obstacle to the full automation of decision-making processes in public administration is the degree of structuring of information used in the decision-making process. The latter represents the readability of information for "machines". If the information is contained in a uniform form allowing the selection of multiple alternatives or in the completion of predefined information, then it is structured information understandable by weak AI systems. Information that is solely available in unstructured forms, such as oral statements or informal texts, however, poses a difficulty. In the context of fact-finding, unstructured information must already be brought into a structured form so that the information can be used in the upcoming steps of the process.[26] It is necessary to state that in the conditions of the Slovak Republic in the field of public administration there are not many so-called form application submissions. It is rather an exception (e.g., it exists in the field of tax administration, trade business, etc.). Thus, one of the barriers to be eliminated or at least minimized is to ensure a higher degree of structuring of the information used in administrative proceedings.

Information contained in public administration information systems is used in many cases and extensively for public administration decision-making. Therefore, another condition for the implementation of automated decision-making in public administration is to ensure the interconnectivity of individual public administration information systems (e.g., register of inhabitants, real estate cadastre, health and social insurance system, tax information system, etc.). In the next step, information systems from the private sphere, e.g., banking, insurance, postal, telecommunication, etc., should join in. At present, there is no interconnection of public administration's own information

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22 See also FILIČKO, V. – SOKOL, M. Elektronizácia a digitalizácia ako prostriedok odňatia práva na súdnu ochranu – vybrané aspekty. *Studia iuridica Cassoviensia* [online]. 2021, Vol. 9, No. 2, pp. 34–42 [cit. 2023-12-07]. Available at: https://zenodo.org/record/5526192.

23 BENCH-CAPON, T. – GORDON, T. F. Isomorphism and argumentation. In: *Proceedings of the 12th International Conference on Artificial Intelligence and Law*. New York: Association for Computing Machinery, 2009, pp. 11–20 [cit. 2023-12-07]. Available at: https://dl.acm.org/doi/10.1145/1568234.1568237.

24 BRANTING, K. – WEISS, B. – BROWN, B. – PFEIFER, C. – CHAKRABORTY, A. – FERRO, L. – PFAFF, M. – YEH, A. Semi-Supervised Methods for Explainable Legal Prediction. In: *Proceedings of the Seventeenth International Conference on Artificial Intelligence and Law*. New York: Association for Computing Machinery, 2019, pp. 22–31 [cit. 2023-12-07]. Available at: https://dl.acm.org/doi/10.1145/3322640.3326723.

25 SUKSI, *Administrative due process when using automated decision-making in public administration*, p. 103.

26 ETSCHEID, *c. d.*, p. 256.

systems within the Slovak Republic. The interconnection of these information systems also entails an additional requirement – to ensure the security of such interconnection.[27] Therefore, in order to enable the automation of decision-making in public administration, it is necessary to increase the degree of interconnectivity of public administration information systems while ensuring their security.

The automation of public administration decision-making also requires that the public administration information systems used contain up-to-date and complete information. In the conditions of the Slovak Republic, this may be another obstacle to enabling automation. That is, information systems may not contain complete information, especially from the period before the information system was established (e.g., older data proving fulfilment of the conditions for social insurance benefits, i.e., data on employment, duration from 40 years ago, etc.). The solution to this problem would be to continuously update this data. Or this problem can also be solved by the passage of time, when the missing data will no longer be relevant.

Finally, the automation of decision-making processes in public administration (but not only in public administration) also requires the existence of secure electronic communication between individuals and legal entities on the one side and the state on the other side and vice versa. In the Slovak Republic, there is a legal, but mainly technical basis for ensuring such electronic communication (through the central portal of public administration at www.slovensko.sk). However, the shortcoming of the current situation is that it is not sufficiently used by individuals and legal entities, and also not by the state. First of all, there is no general obligation to have activated electronic mailboxes for electronic delivery of documents (natural persons do not have this obligation). Second of all, there are only limited areas where is an obligation to communicate electronically (e.g., tax administration). And third, even public authorities themselves do not use electronic delivery of mail to entities that have activated the electronic mailbox (although they are obliged to do so). One way to eliminate this barrier to automation of decision-making processes is to extend mandatory electronic communication to other areas, to extend the obligation to have activated electronic mailboxes to other entities, and to comply with the currently existing electronic communication obligations.

On the other hand, it should also be pointed out that there are tendencies to remove these barriers. At this point, it is worth pointing out the efforts towards digitalization and automation (whether partial or complete) in the construction sector. The new construction legislation[28] foresees that all decision-making processes in the field of construction will be carried out electronically and, to the maximum extent possible, automated. According to the information available on the website of the Office for Urban Planning and Construction of the Slovak Republic, *"the system prepares documents based on the input data and the administrative staff validates the result. This is possible when digital processes are set up well and deliver correct, understandable data in consistent formats*.

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[27] For more details see ANDRAŠKO, J. Bezpečnosť informačných systémov verejnej správy vo svetle zákona o kybernetickej bezpečnosti a zákona o informačných technológiách vo verejnej správe. *Revue pro právo a technologie* [online]. 2019, Vol. 10, No. 20, pp. 3–40 [cit. 2023-12-07]. Available at: https://journals.muni.cz/revue/article/view/12536.

[28] Act No. 201/2022 Sb., on construction.

This creates a sophisticated jigsaw puzzle that can operate independently, which means much faster completion of cases. For example, if a client places a proposal for a small building in the correct format in the digital urban plan and all the necessary details are correct, i.e., in accordance with the urban plan and without the need for statements from other parties, the system automatically prepares the documents necessary for the building permit."[29]

3. OPTIONS FOR IMPROVING DECISION-MAKING AUTOMATION IN PUBLIC ADMINISTRATION

In the previous sections of this paper, some legal and factual obstacles to the implementation of full automation in decision-making processes in public administration in the Slovak Republic have been listed. It was not an exhaustive enumeration of these obstacles, nor was it a detailed analysis of them. This should be followed up by further research that focuses on the issue. However, it should also include examination of ways of eliminating or weakening them. It must be assumed that automation in this area is also a trend that will be unavoidable. It will therefore be necessary to be prepared for it and also for its consequences.

As mentioned above, one of the fundamental barriers is the lack of a legal basis for enabling full automation in decision-making processes. It is therefore necessary, as a first step, to adopt legislation to enable such processes to be automated. Ideally, this would be in the form of a general provision in the general regulation on administrative procedure (Administrative Procedure Code), which would be followed by more detailed regulation in specific regulations. This should include the regulation of legality guaranties in automated decision-making processes, not only *ex post* but also preventive guaranties – during the process itself. In fact, the classical preventive guarantees of legality in the course of administrative proceedings as they arise from the current legislation will not be applicable,[30] or will only be of limited application in automated decision-making processes (possibility to be heard at oral hearings, to raise objections, to look at files, etc.). In the case of *ex post* guarantees of legality, it will also be necessary to ensure that the algorithm on the basis of which the automated decision was generated is reviewable.

At the same time, it will be necessary to specify the decision-making processes that are eligible for automation, either fully or after certain legislative changes. In particular, these are processes that operate on the basis of programmability and conditionality. Even today, they would be automatable if there were a proper legal basis (e.g., decision-making on administrative offences of motor vehicle operators for non-compliance with the maximum speed limit on the basis of objective liability). However, this category will not include decision-making processes that require discretion, the

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[29] Digitalizácia. In: *Úrad pre územné plánovanie a výstavbu Slovenskej republiky* [online]. [cit. 2023-01-07]. Available at: https://stavebnyurad.gov.sk/digitalizacia.

[30] More details in TEKELI, J. Záruky zákonnosti vo verejnej správe. In: SEMAN, T. – JAKAB, R. – TEKELI, J. *Správne právo hmotné: všeobecná časť*. Košice: ŠafárikPress, 2020, pp. 172–186.

evaluation of the evidentiary situation, the interrogation of witnesses, the drawing up of expert reports, or the application of discretion by the administrative authority.

For decision-making processes identified as eligible for automation, it will be necessary to implement an electronic form of mutual communication between the administrative authority and the natural or legal person on the other side, while the form and content of submissions and actions should be structured as much as possible (in standardized forms). For unstructured submissions and actions, it would be necessary to ensure their transformation into a structured form, which would require human intervention.

In these decision-making processes, it will also be necessary to ensure the interconnection of public administration (or other) information systems from which information will be taken for the purposes of the decision (e.g., in the case of decision-making on an administrative offence of a motor vehicle operator, this will be the information system of camera scanning of motorways and roads, the information system of motor vehicle operators, the information system of the register of inhabitants, the information system of the register of organizations, or the information system of offences, etc.). In addition to the interconnectivity of the systems, it will also be necessary to ensure the recentness and completeness of the information contained in the information systems, as only in this way will it be possible to issue a correct and lawful decision within the automated decision-making process.

4. CONCLUSION

The development of information technology and its use in everyday life must inevitably have an impact on public administration and its decision-making. Progress in artificial intelligence is also opening up wider opportunities for the use of automation of decision-making processes in public administration. Decision-making processes that once had to be handled by humans can now be automated. However, there must be a sufficient legal basis for this, setting out the legal limits of such automated decision-making. In this paper, the legal possibilities of automation of decision-making processes in the field of public administration in the Slovak Republic were examined, the obstacles that hinder the use of this tool were defined, as well as certain legal solutions eliminating or minimizing the consequences of these obstacles were outlined.

Under the current legal situation, automation is only possible within the individual phases of the decision-making process in public administration, while the human factor, which covers the entire decision-making process, must be preserved. In order to enable full automation, i.e., within all phases of the decision-making process, it would be necessary to adopt legislation to enable such automation in public administration decision-making processes. In addition to enshrining the possibility of automation, this legislation should also regulate preventive (*ex ante*) and consequent (*ex post*) guarantees of legality in automated decision-making processes in the public administration.

In addition, there are other legal and factual obstacles that hinder the implementation of automation of decision-making processes in public administration. For one, not all

processes are capable of automation. Processes that require discretion, free assessment, review of plausibility, evidential value, etc. are not those that are eligible for automation. It is therefore essential to identify the administrative processes where automation would be possible under the current legal status or with certain legislative changes. The processes identified in this way would need to ensure electronic communication between relevant subjects in structured forms with standardized content. In addition, it would also be necessary to ensure the interconnectivity of public administration information systems used in automated decision-making.

These factors would enable automation on the assumption that it will only use so-called weak artificial intelligence. The use of strong artificial intelligence based on machine learning would not be possible under the current rule of law and transparency setup. However, it will not be possible to avoid this form of artificial intelligence in the future, but there must also be a proper legal basis for it.

The purpose of this paper was not to exhaustively describe and solve the problems with the automation of decision-making processes in public administration in the Slovak Republic. Rather, the purpose was to outline problematic areas that should be addressed in legal research. This is also an indication of the direction in which the author‘s own research in this area will take. It should also be noted that legal research in this area cannot be isolated from the study of this issue from an information-technical, sociological, or even political science perspective.

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NATIONAL REPORT ON AUTOMATION IN DECISION-MAKING IN CIVIL PROCEDURE IN THE CZECH REPUBLIC[1]

MIROSLAV SEDLÁČEK

Abstract: The paper focuses on the issue of automated decision-making in civil proceedings. First of all, attention is given to procedural institutes that direct and facilitate automated decision-making, in particular the digital court file and the legal framework of videoconferencing equipment, without focusing on electronic service of documents, which should be a separate paper. A single case of legal regulation of automated decision-making in the form of an electronic payment order is then analyzed (cf. Section 174a of the Code of Civil Procedure). For each of these fields, an analysis of digitalization to date is given, which is followed by a consideration of further developments. It also outlines the limits encountered by the use of modern technologies and the potential risks proposed adjustments.

Keywords: civil procedure; civil proceedings; automation; judicial decision-making; decision; digitization; machines and judges; AI

DOI: 10.14712/23366478.2024.29

1. INTRODUCTION

One of the most significant areas of Civil Procedure is the matter of *automation in decision-making*.[2] This is a consequence of the efforts to simplify the civil proceedings and its certain automation, which is manifested throughout the European countries. A prerequisite for the effectiveness of civil proceedings is the proper setting up of the *digitalization of justice*, which does not only mean that the claimant can file a motion to initiate proceedings by remote access on an electronic form, but also

[1] This article was written under the umbrella of the project "Regulatory Sandboxes: Mirage and Reality in Public Law", supported by Charles University's 4EU+ Mini-grants Programme.

[2] Online court proceedings have a significant advantage over offline proceedings: *convenience*. As with an e-ADR, the most obvious benefit of a cybercourt would be its technological capabilities. For example, the use of technology would bring efficiency to the court system. The management of court pleadings and other documents would be streamlined. In addition, the use of technology would assist jurors, attorneys, their respective clients, and witnesses. It would enable *decision-makers* to experience physical evidence in much the same manner as the disputing parties did at the time of the dispute, and lawyers to review information in a cybercase file at any convenient time. Likewise, witnesses could testify without actually going to a physical courtroom. See FANGFEI WANG, F. *Online Dispute Resolution: technology, management and legal practice from an international perspective*. England: Chandos Publishing (Oxford) Limited, 2009, pp. 30–31.

that subsequent judicial acts should be performed in the digital form, including the maintenance of an e-file, the use of videoconference equipment for part or the whole proceedings, and the automation of the judicial decision and its delivery to the litigants (including the action to the defendant in the form of a digital message, or after an automated conversion from paper form) via a public data network.[3] The achievement of this (digital) state of affairs may lead to greater efficiency of civil proceedings, some relief for the courts, and also to faster cooperation between the court and the litigants.[4]

The impact of new technologies on the Civil Procedure can thus be seen in various guises.[5] On a deeper analysis, it is possible to find a specific influence of the advent of modern technology on legal institutes.[6] These include in particular the areas of digital delivery for documents, maintenance of a digital court file, the use of videoconferencing equipment, the recording of the proceedings by digital means, or the sphere of evidence and fact-finding in general, or the possibility of *automated decision-making*.[7] The advent of technology is a major evolution in civil proceedings. However, it does not only bring new opportunities, but also new challenges that will have to be faced in the future. Both in the legal and non-legal aspects.[8]

The aim of this paper is to analyze these levels and answer the question: *Is the current state of the legal regulation of automated decision-making adequate in relation to the technical progress of society in general?*[9]

2. PROCEDURAL MEANS TO SUPPORT AUTOMATED DECISION-MAKING

2.1 COURT FILE IN DIGITAL FORM (E-FILE)

The court file shall be kept on every civil dispute or other legal matter in paper or electronic form [cf. Section 40b(1) of the Code of Civil Procedure[10]]. Currently, there is only one judicial area in which files are available in purely electronic form. That is the *Electronic Payment Order System* (for details see chapter 3 below). It is still expected that the files will be kept partly in paper and partly in electronic form, since all judicial acts (judgments, orders, payment orders, minutes, but also summonses, writs, templates, etc.) are not only part of the paper court file, but are also archived in

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3 Ibid.

4 Ibid.

5 SEDLÁČEK, M. Elektronizace justice a nové technologie v civilním procesu [Digitalization of Justice and New Technologies in Civil Proceedings]. In: SEDLÁČEK, M. – STŘELEČEK, T. et al. *Civilní právo a nové technologie* [Civil Law and New Technologies]. Praha: Wolters Kluwer ČR, 2022, p. 195.

6 Ibid.

7 KATSH, E. – RABINOVICH-EINY, O. *Digital justice: Technology and the Internet of Disputes*. New York: Oxford University Press, 2017, p. 1 et seq.

8 For a more extensive discussion see WING, L. – RAINEY, D. Online Dispute Resolution and the Development of Theory. In: WAHAB, M. – KATSH, E. – RAINEY, D. (eds.). *Online Dispute Resolution: Theory and Practice*. The Hague: Eleven International Publishing, 2012, pp. 19–38.

9 FANGFEI WANG, *c. d.*, pp. 137–147.

10 Act No. 99/1963 Sb., Code of Civil Procedure, as amended.

electronic applications.[11] The procedural norms also do not set out any rules as to where the files must be kept electronically and when it must be kept in paper form, which is a significant shortcoming of the regulations.

The conditions for maintaining the court file are set out in the *Rules of Procedure for District and Regional Courts*.[12] An electronic file may be kept only in an information system specifically designed for that purpose, in accordance with the approved documentation for that information system (cf. Section 26a of the Rules of Procedure for District and Regional Courts). More detailed regulations are also set out in the *Internal and Office Rules for District, Regional and High Courts*.[13] The electronic file administration is implemented in particular for insolvency proceedings, where the insolvency file is maintained in the Insolvency Register – ISIR (cf. Section § 419 of the Insolvency Act[14]). Insolvency files with all proceedings opened since 1 January 2008 can be found in this ISIR. However, a parallel paper file is still maintained.

The electronic file includes court acts in electronic form, which must be accompanied by a recognized electronic signature (or a qualified electronic time stamp), while documents created by the court in written form (e.g., due to the impossibility of creating them directly in electronic form) will be simultaneously converted into the form of an electronic submission (cf. Section 22 et seq. of the Act on Electronic Communications Act[15]). Any filings and other documents from the litigants or other procedural subjects shall also be accompanied by a guaranteed electronic signature or shall be converted into a document contained in a digital message; in the case of submission of a file in written form, the court shall subsequently carry out the authorized conversion into a document contained in a digital message. The court shall then file those documents in the electronic file [cf. Section 25(3) to (5) of the Rules of Procedure for District and Regional Courts].[16]

The current *digitalization* of the court file is not sufficient. There are many documents the nature of which does not allow conversion into electronic form at all.[17] For example, in the case of certain securities, typically promissory notes or bill of exchange. The question of the possible public access to the electronic file, or distance access, also remains a matter of discussion. Even a court file in paper form is not public (cf. Section 44 of the Code of Civil Procedure).[18] Therefore, the only solution seems to be the

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[11] In court applications ISAS, ISVKS, etc. See JIRSA, J. in: JIRSA, J. et al. *Občanské soudní řízení: soudcovský komentář. Kniha I: § 1–250l občanského soudního řádu* [Civil Proceedings: Judicial Commentary. Book I: § 1–250l of the Code of Civil Procedure]. 4th ed. Praha: Wolters Kluwer ČR, 2023, p. 301.

[12] Regulation No. 37/1992 Sb., on Rules of Procedure for District and Regional Courts, as amended.

[13] Ministry of Justice Instruction No. 2/2022 of 9 February 2022, No. 1/2022-OSKJ-MET, amending the Ministry of Justice Instruction of 3 December 2001, No. 505/2001-Org, issuing internal and office rules for district, regional and high courts, published under No. 1/2002 of the Collection of Instructions and Communications, as amended.

[14] Act No. 182/2006 Sb., on Bankruptcy and Settlement (Insolvency Act), as amended.

[15] Act No. 127/2005 Sb., on Electronic Communications and on Amendment of Certain Related Acts (Electronic Communication Act), as amended.

[16] See ŠEBEK, R. in: DRÁPAL, L. – BUREŠ, J. et al. *Občanský soudní řád I. § 1 až 200za: komentář* [Code of Civil Procedure I. § 1 to 200za: Commentary]. Praha: C. H. Beck, 2009, p. 255.

[17] HRDLIČKA, M. in: LAVICKÝ, P. et al. *Moderní civilní proces* [The Modern Civil Procedure]. Brno: Masarykova univerzita, Právnická fakulta, 2014, p. 194.

[18] Ibid., p. 195.

establishment of a distance access to the electronic file.[19] In addition, in the case of a *hybrid file*, a situation may arise where certain parts of the file do not correspond.[20] In such a case, the conflict should be resolved in favor of the paper file. In practice, there are known cases where court files have been stolen or lost outside the court. Even if only an electronic court file will be kept on a given case, it is also necessary to be aware of cases where a litigant or another procedural subject or the court makes (submits) a document only in written form.[21] After the authorized conversion by the court, although the documents will be kept in the *e-file* in electronic form, their original form must also be filed and preserved by the court.[22] Therefore, for these purposes, the courts maintain a collection of written documents – *a (auxiliary) paper file*, which is labelled with the file number of the case before the court.[23]

In the case of an electronic file, it is necessary to be aware of the possible failure of the system that administers the files. This can be solved by a digital system of sufficient quality, properly equipped facilities, both in terms of material and personnel, as well as data backup. *Cybercrime* is a problem, as data stored in electronic files is a natural target for the unauthorized acquisition of valuable information. This data needs to be protected from *cyber-attacks* using new methods. The increase in such attacks on a global basis has been evident for a long time and is likely to grow in the coming years.[24]

2.2 VIDEOCONFERENCE EQUIPMENT AND ITS USABILITY

In several European legal system, *videoconferencing* is already commonly used before the civil court.[25] Foreign experience shows that this (digital) technology has undeniable advantages and allows for more efficient the proceedings.[26] It can be used in particular in the course of taking evidence or making a request, and the procedure for using videoconferencing equipment is regulated by Section 102a of the Code of Civil Procedure.[27] The court may carry out an act using it, especially to arrange for a litigant or an interpreter to be present at a hearing or to question a witness, expert or litigant, at the request of a litigant or if it is expedient to do so [cf. Section 102a(1) of the Civil Procedure Code]. In both cases, the expediency of the use of the digital means will be examined. Only the impracticality of the use should be grounds for rejecting a litigant's request to carry out a procedural act in this way.[28]

Before the start of the videoconference, the judge shall be obliged to advise the person to whom the act relates on the rights and obligations and on the manner of carrying

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19 Ibid.
20 Ibid.
21 ŠEBEK, *c. d.*, p. 255.
22 Ibid.
23 Ibid.
24 Cf. the report on the state of cybersecurity in the Czech Republic in 2023 [online].
25 JIRSA, *c. d.*, p. 654.
26 Ibid.
27 The possibility of using videoconferencing equipment was introduced into civil proceedings with effect from 30 September 2017 by an amendment to the Code of Civil Procedure implemented by Act No. 296/2017 Sb. as a consequence of the continuing trend towards the *digitalization of justice*.
28 JIRSA, *c. d.*, p. 655.

out the act.[29] That person shall also have the right to object to the quality of the video or audio transmission at any time during the proceedings.[30] Two fundamental questions may be asked in this context. Firstly, *do all courts have facilities to enable the use of videoconferencing equipment?* Secondly, *does this equipment allow transmission of sufficient quality?*

The introduction of videoconferencing in the justice sector has been underway since 2017 and currently all courts have equipment that allows them to transmit both audio and visual information.[31] However, the use of this equipment does not depend on the facilities of the courts, but on the discretion of the judge as an expression of their *independent decision-making*. Moreover, the decision not to use videoconferencing is not subject to appeal [cf. Section 202(1)(a) of the Code of Civil Procedure], so it is difficult for a litigant to use the technology if they encounter reluctance on the part of the judge. At the same time, it must be acknowledged that the technical equipment may not be error-free. In some cases, the questioning may be incomprehensible. Therefore, the procedural rules provide the possibility for the person who has proposed the videoconference evidence, or who is concerned by the questioning, to object to the quality.[32] If reliable fact-finding cannot be achieved through the videoconferencing facility, the court is then obliged to conduct the fact-finding of the evidence itself, even if there are increased costs or difficulties in conducting this itself.[33]

The court is always obliged to make an audio and video record when using the videoconference equipment.[34] This also becomes part of the court file (permanent data medium). The taking of a record is still foreseen; however, the record does not have to be signed in addition to the mandatory record. Although participation in the hearing by videoconference equipment may seem advantageous at first sight, especially in terms of time savings and *economy of proceedings*, it also poses certain limitations in terms of direct contact between the litigants and other subjects with the court.[35] The mere fact that a litigant is acting by videoconferencing on the basis of their proposal does not constitute a breach of the *principle of equality of arms*.[36] Nor is it breached if the court fails to inform the litigant that another subject has requested such a special hearing. The use of videoconferencing equipment is thus compatible with *the right to a fair trial*.

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29 Cf. Section 102a(3) of the Code of Civil Procedure.
30 Cf. Section 102a(4) of the Code of Civil Procedure.
31 KORBEL, F. Aktuality. *Soudní rozhledy* [Judicial Reviews]. 2017, No. 5, p. 145.
32 JIRSA, *c. d.*, p. 656.
33 Cf. the judgment of the Supreme Court of 31 January 2019, case No. 21 Cdo 4132/2018.
34 Cf. Section 102a(5) of the Code of Civil Procedure.
35 Cf. the judgment of the Supreme Administrative Court of 23 July 2021, case No. 1 Afs 316/2020-71.
36 The Article 6(1) of the European Convention for the Protection of Human Rights and Fundamental Freedoms does not explicitly mention equality of arms, however, the European Court of Human Rights has stated in its case law that the principle of "equality of arms" is part of the right to a fair trial – the Delcourt judgment from 1970 states that each litigant to a trial must have an equal opportunity to defend its interests, that no litigant must have a substantial advantage over the opposing litigant and that each litigant must be able to present its arguments on terms which are not clearly disadvantageous in comparison with the opposing litigant. See KMEC, J. – KOSAŘ, D. – KRATOCHVÍL, J. – BOBEK, M. *Evropská úmluva o lidských právech: komentář* [European Convention on Human Rights: Commentary]. Praha: C. H. Beck, 2012, pp. 737–740.

However, it must be ensured that the hearing is monitored, and the questioning is free from technical obstacles.[37]

Videoconference is by its nature a direct visual and audio transmission. However, it is not always possible to use such equipment. These are *limitations* which are determined by the specific circumstances of the case. An example is the conduct of an examination pursuant to Section 130 of the Code of Civil Procedure, which constitutes a direct means of evidence consisting of the judge's own perception of the facts relevant to the decision.[38] This makes the examination one of the most reliable means of proof. It is conceivable that it can also be conveyed by the transmission of images and sound. In some cases, however, this will be impossible.[39] Even if it were a fact that could be ascertained from a photograph, for example, there might be some distortion due to technology.[40] This is not necessarily due to the subsequent editing of the photograph or the video, but perhaps also to the taking of the footage from specific angles.[41] Therefore, the videoconference equipment has its *limits*.[42] The court is not obliged to warn the litigants of the possibility of using it. Its use is therefore at the discretion of the court, either at the request of a litigant or where it is appropriate to do so.

3. AUTOMATED DECISION-MAKING – ELECTRONIC PAYMENT ORDER

The implementation of the *Electronic payment order* on the Civil Procedure Code in 2008 represents the first step towards the *automation of decision-making*.[43] Since 1 January 2012, the central electronic payment order application (CEPR) has been in operation, with the previous methods of processing applications for its issuance having been terminated.[44] All this judicial agenda is now kept only in the *digital form*, with the exception of the so-called "collection file", in which submissions received in paper form are entered after they have been converted and included in the electronic file (cf. Section 40b of the Code of Civil Procedure).[45] Through the special application *InfoDokument*, available on the website of the Ministry of Justice of the Czech Republic, the litigants may verify the authenticity of the court decision, and in the case of an

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37 Cf. judgment of the European Court of Human Rights No. 45106/04 of 5 October 2006 in the case of *Marcello Viola v. Italy*.

38 LAVICKÝ, P. in: LAVICKÝ, P. et al. *Občanský soudní řád (§ 1 až 150l): řízení sporné: praktický komentář* [Code of Civil Procedure (Sections 1 to 150l): Contentious Proceedings: Practical Commentary]. Praha: Wolters Kluwer ČR, 2016, p. 641.

39 Ibid.

40 Ibid., p. 642.

41 Ibid., p. 643.

42 LOUTOCKÝ, P. *Vymahatelnost práva pomocí online řešení sporů* [Law Enforcement through Online Dispute Resolution]. Praha: Wolters Kluwer ČR, 2020, p. 62 et seq.

43 The Electronic Payment Order was introduced into civil proceedings with effect from 1 July 2008 by an amendment to the Code of Civil Procedure implemented by Act No. 123/2008 Sb.

44 SVOBODA, K. *Řízení v prvním stupni: civilní proces z pohledu účastníka* [Proceedings at First Instance: Civil Procedure from the Perspective of a Litigant]. Praha: C. H. Beck, 2019, p. 397.

45 JIRSA, *c. d.*, p. 1107.

electronic payment order, it is possible to obtain the electronic original of the order, including the marked legal force clause.[46]

The issuance of an electronic payment order is a specific variant of the order procedure, which is governed by the same rules as the general order proceedings (cf. Sections 172 to 174 of the Code of Civil Procedure), unless otherwise expressly provided for in Section 174a of the Code of Civil Procedure. It may be issued only if:
(1) the claim is for the payment of a sum of money not exceeding CZK 1,000,000,
(2) the right claimed arises from the facts stated in the motion,[47]
(3) the motion is submitted electronically on the prescribed form,[48]
(4) the motion bears the electronic signature of the claimant,[49] and
(5) the issue is expressly requested.[50]

The motion shall be filed through the central *eFiling Office* (www.epodatelna.justice.cz) using the electronic form available in the relevant section in its up-to-date form, including instructions for completion and filing. In addition to the general requirements [cf. Section 42(4) of the Code of Civil Procedure] and the requirements under Section 79(1) of the Code of Civil Procedure, the motion must also include the date of birth of the natural person, the identification number of the legal entity or the identification number of the natural person who is an entrepreneur.[51] These data are used for the automatic verification of persons, the absence of which is grounds for rejection of the motion.[52] The condition for the issue of an electronic payment order is also that the asserted right arises from the facts stated by the claimant, which presupposes a recital of the relevant facts in such a way as to enable the court to subject the factual basis asserted by the claimant to a legal assessment and to conclude that the substantive right gives rise to the claimant's asserted claim to the full extent.[53] The motion is accompanied by scanned documentary evidence, which need not be signed in any way and are thus copies.[54] If the proceedings are terminated by a final electronic payment order, the court shall not require the production of original or certified copies of the evidence.[55] These could be required if the case is transferred to the regular proceedings (to the first instance civil docket under "C") due to the non-issuance or revocation of an electronic payment order already issued.[56]

If the motion does not contain all the statutory requirements, if it is incomprehensible or if it is vague, the judge shall reject it if the proceedings cannot be continued due to these deficiencies; the procedure under Section 43 of the Code of Civil Procedure shall

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46 SVOBODA, *c. d.*, p. 397.
47 ZAHRADNÍKOVÁ, R. et al. *Civilní právo procesní* [Civil Procedural Law]. 3rd ed. Plzeň: Vydavatelství a nakladatelství Aleš Čeněk, 2018, p. 210.
48 Ibid.
49 Cf. A recognized electronic signature means a guaranteed electronic signature based on a qualified certificate for electronic signature or a qualified electronic signature.
50 SEDLÁČEK, *c. d.*, p. 196.
51 Cf. Section 174a(2) of the Code of Civil Procedure.
52 JIRSA, *c. d.*, p. 1107.
53 ŠEBEK, *c. d.*, p. 1166.
54 JIRSA, *c. d.*, p. 1107.
55 Ibid.
56 Ibid.

not apply.[57] It is not possible to remedy the defects in the motion by means of an invitation under that provision, since that would defeat the purpose of the expedited procedure. An appeal is admissible against the order rejecting the application (cf. Section 202 of the Code of Civil Procedure *a contrario*). Since that decision does not constitute an obstacle to *rei iudicatae*, the claimant may re-submit the motion with all the requisites. An electronic payment order cannot be issued if:

(1) the residence of the defendant is unknown,
(2) the order for payment issued should be served on the defendant abroad,
(3) the defendant is a minor who has not yet acquired full capacity on the date of the commencement of the proceedings or on the date of the intervention,
(4) the value of the claim asserted in the motion exceeds CZK 1,000,000,
(5) the court continues the proceedings after the proceedings have been stayed, or
(6) the court fee has not been paid within the time limit set by the court.[58]

In court practice, there is a consensus of opinion that no consideration is given to the value of the claim (cf. Section 513 of the Civil Code).[59] This means that the amount of the accessories claimed together with the main amount of the claim has no bearing on the determination of the admissibility of the issue of an electronic payment order, even if they alone or together with the claim itself (the principal) exceed CZK 1,000,000.[60] If, however, the claimant was to request payment only of the accessories to the claim (interest, default interest, costs associated with their application) for an unspecified period of time (until payment of the outstanding principal), it cannot be concluded that the requested payment would not exceed CZK 1,000,000; the issue of an electronic payment order is then excluded.[61]

A statement of *protest* against an electronic payment order may also be filed on an electronic form signed with a certified electronic signature [cf. Section 174a(6) of the Code of Civil Procedure]. However, the protest may also be lodged outside the system of CEPR, so the defendant has a choice whether or not to lodge it using an electronic form. By filing a statement of protest, the payment order is cancelled, and the proceedings are transferred to the (standard) adversarial procedure. The further course of the proceedings depends on the specific circumstances of the case. As in the case of the revocation of the order for payment, the court shall order a hearing in the case [cf. Section 174(2) of the Code of Civil Procedure]. However, even in the case of electronic payment orders, the courts make use of the possibility of inviting the defendant to make a statement on the claim asserted in the action pursuant to Section 114b of the Code of Civil Procedure or, if the litigants agree, to decide the case without a hearing pursuant to Section 115a of the Code of Civil Procedure. The response to these requests will be followed in the proceedings.[62]

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[57] Cf. the decision of the Supreme Court of 15 October 2002, Case No. 21 Cdo 370/2002.
[58] SEDLÁČEK, *c. d.*, pp. 197–198.
[59] Act No. 89/2012 Sb., Civil Code, as amended.
[60] ŠEBEK, *c. d.*, p. 1166.
[61] Ibid.
[62] HAMUĽAKOVÁ, K. in: ŠÍNOVÁ, R. – HAMUĽAKOVÁ, K. et al. *Civilní proces: obecná část a sporné řízení* [Civil Procedure: General and Adversarial Proceedings]. 2nd ed. Praha: C. H. Beck, 2020, pp. 249–250.

One of the *motivations* for using the electronic payment order is the reduced rate of the court fee for filing a motion for its issuance (cf. item 2 of the Fee Schedule of the Court Fees Act).[63] While the minimum court fee for a regular order for payment is CZK 1,000, the minimum fee for an electronic payment order is CZK 400. In principle, the court fee for an application for an electronic payment order is 4 per cent of the claim, as opposed to 5 per cent if the same application is made by way of an action or an application for a general payment order. This advantage is intended to reflect the lower cost of processing the CEPR by the court. If the court does not issue an electronic payment order, a court fee may be charged up to the amount set for a regular application for initiation of proceedings. However, the transfer of the CEPR to judicial agenda "C" must be exceptional, even though a purely linguistic interpretation of Section 174a(1) of the Code of Civil Procedure makes it clear that *"the court may issue an electronic order for payment at the request of the applicant"*.[64]

4. LIMITS, RISKS AND STRAIGHTFORWARD CHALLENGE OF AUTOMATED DECISION-MAKING

The superficially straightforward challenge, "can machines replace human judges?" conceals at least five questions.[65] The first is whether it is *technically possible* for machines to replace judges.[66] The second asks, even if it were technologically possible, would it be *morally acceptable* for machines to take on any judicial functions?[67] The third inquires whether such systems would be *commercially viable*, that is, would their economic benefits outweigh their costs?[68] Fourth, would this be *culturally sustainable* – could such systems be assimilated without rejection into court institutions dominated by age-old procedures with human judges at their core?[69] Finally, there is a philosophical question, is it *jurisprudentially coherent* to develop such system?[70] Is there anything specific about the structure and nature of judicial decision-making itself that places it, partly or entirely, beyond the scope of computation?[71]

However, we do not currently encounter fully automated decision-making. Thus, apart from the possibility of issuing an electronic payment order (cf. Chapter 3), there is still a decision to be made that requires the action of a natural person and there is no system in place to make to completely replace the judge's decision-making process. In recent years, the only effort to be seen has been the creation of a CTD information system, i.e., *Central Document Production*. Although the term might seem to imply

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63 Act No. 549/1991 Sb., on Court Fees, as amended.
64 JIRSA, *c. d.*, p. 1108.
65 SUSSKIND, R. *Online Court and the Future of Justice*. New York: Oxford University Press, 2019, p. 278.
66 Ibid.
67 Ibid.
68 Ibid., p. 279.
69 Ibid.
70 Ibid.
71 Ibid.

that it is a step towards automated decision-making, it is only a tool for the creation and management of templates, with the aim of unifying document creation.

The fundamental question greater to the introduction of automated decision-making is whether machines can take on the work of judges. According to my opinion, the central work of judges is "the creativity, craftsmanship, individuality, innovation, inspiration, intuition, common-sense". If we will follow this line of thoughts, we can probably come to the following mistake: (1) judges think when they are doing their work, (2) machines cannot think, and so (3) machines cannot do the work of judges.[72] *"In the context of AI, this inclines us to consider whether machines can deliver decisions at the standard of human judges or higher, not by replicating the way that judges think and reason but by using their own distinctive capabilities (brute processing power, vast amount of data, remarkable algorithms)."*[73] In view of the above, there are three major technical question here. The first one is, *can a machine think, work, emote, create, reason, and feel like a human judge?* The answer is "no". Only a human being can function as a human judge does. The second one is, *whether the outcome of the judicial method – very crudely, decisions with reasons – can delivered by machines? "In this era of increasingly capable machines, then, it is not outrageous to expect at some stage, whether 20 or 100 years from now, that systems will outperform judges at their own game, delivering reasoned judgments with explanations that will look and feel like the finest of human judgments but sourced through AI rather than judicial 'wetware'."*[74] The third question is, *whether it is possible to develop systems that deliver the social and economic outcomes we expect of judges and courts but do so in unhuman ways?*[75] The answer would be more positive and takes us back to machine learning and the prediction of court decisions.

Of course, decisions of the courts have only been made by judges in the past. But does this bind us for all time? Probably not. Litigants may not want judicial decision; on one view, the want a binding decision by an institution we call a *court*.[76] *"In principle, we can imagine a machine generating findings that, by law, are deemed authoritative. It could be enshrined in the rules of court, for instance, that if the system predicts a court finding in favor of the claimant with a probability factor greater than, say, 95 per cent, then that finding becomes the official determination of the court."*[77] This may be thought to be undesirable or unlikely, but it is certainly a possibility.[78] As ever then, we need to keep an open mind, remembering too that the high ground is not necessarily held by those who prefer the *status quo*.

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72 Ibid.
73 Ibid., p. 280.
74 Ibid., p. 281.
75 Ibid.
76 Cf. *"No one shall be deprived of his lawful judge. Jurisdiction of the court and the judge shall be determined by law."* (Article 38(1) of Constitutional Act No. 2/1993 Sb., Charter of Fundamental Rights and Freedoms, as amended).
77 SUSSKIND, *c. d.*, p. 287.
78 Ibid.

5. CONCLUSION

Procedural rules should naturally respond to new technologies and techniques that affect aspects of the daily lives of individuals.[79] It will be necessary to continue to identify the areas of civil procedure that are most affected by technological progress and to continue the trend towards the digitalization of justice and the automation of judicial decisions.[80] To be content with the maintenance of a *digital court file*, *the electronic service of documents*, *the use of videoconferencing equipment* or the possibility to decide in summary proceedings by *electronic payment order* would be to rest on one's laurels. If technology enables easy remote connection and transmission (audio and video), the possibilities offered should be fully exploited in court proceedings.[81] Of course, this is subject to the *guarantee of the right to a fair trial* and *its fundamental principles* (cf. Article 6 of the European Convention for the Protection of Human Rights and Fundamental Freedoms).

I conclude that probably there will be little difference between traditional and automated decision-making in coming years. Automated decision-making is being designed and developed precisely to overcome the disproportionate expense and efforts of traditional decision-making techniques. If their promise is fulfilled, and the early cases give us strong reason to be optimistic, then the social good that is *effective dispute resolution* will be much more widely distributed across civil proceedings. And this good will be accessible at a cost, within timescales, and in a spirit that is notably more proportionate to the value of every dispute than the machinery of conventional decision-making.

The answer to the question I posed in the Introduction (cf. Chapter 1) is surely very clear – the current state of the legal regulation of automated decision-making *is not adequate* in relation to the technical progress of society in general. *In its conservatism, today's generation runs the risk of being guilty of sins of omission, of failure to make changes*.

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79 SEDLÁČEK, *c. d.*, p. 205.

80 Digital justice must enhance both "access" and "justice" through the use of technology. Access is enhanced through the wide availability of online redress and prevention mechanisms, as well as by algorithms that can handle large numbers of disputes and employ easy-to-use, plain language, and tailored processes. Justice can be enhanced where algorithms impact parties in an even-handed manner and are subject to quality control. Dispute data aimed at dispute prevention is a recent development and needs to be used fairly, targeting problems related to a variety of stakeholders, while respecting individual privacy and legal restrictions on use of private information. To be effective, digital justice will require extensive monitoring of the impact of design choices on both efficiency and fairness. This is no simple task. Despite challenges, however, this new dispute resolution and prevention landscape holds the promise of many important improvements, including our basic understanding of how justice works. No longer will it be dependent on a physical, face-to face environment, or even subject to the limitations of human decision-making. See KATSH – RABINOVICH-EINY, *c. d.*, p. 180.

81 SUSSKIND, *c. d.*, p. 293 et seq.

VARIA

EQUITY IN GERMAN PRIVATE LAW[1]

REINHARD BORK[2]

Abstract: The German legal system, as in most continental legal systems, is primarily based on statutes. When deciding a case, judges apply the law as written in norms and do not put their own idea of a just and equitable result in place of the solution provided by the legislature. Seen in this light, statutes are "curdled equity". This leaves little room for deciding a case under the principle of equity, understood as a means to find a resolution of the tension between the abstract-general provisions of the law and the particularities of the case at hand, i.e., the establishment of justice in individual cases. In this article, the relationship between statute and equity will be illustrated for German private law, highlighting the principle (predominance of statutes) and the exemptions (gateways to equity for legislature and courts). Further examples from German insolvency law complete the picture.

Keywords: *boni mores*; construction of norms; decency; equity; good faith; judgment *ex aequo et bono*; methodology; separation of powers; statute; teleological reduction

DOI: 10.14712/23366478.2024.30

I. INTRODUCTION

The reference to equity goes back to Roman law. According to *Ulpian*, *"law is the art of the good and equitable"*.[3] Under the influence of canon law, the Latin *"aequitas"*, from which the term "equity" stems, developed to a remedy against too rigid and inflexible binding laws. This can be seen very clearly in the origins of equity in English law. There, in the early days, it was a matter of bringing a decision found by the courts on the basis of the – at that time very formal – common law before the king as guarantor of justice and equity and asking him to review the decision, applying the principles of morality and his conscience, and to set it aside *"ex aequo et bono"*. As formulated in 1615 in the famous *The Earl of Oxford's Case*, in those times, the idea of

[1] This text is the elaboration of a lecture given by the author at the "Conference on reasoning about equity and law" on 26 June 2023 in Hamburg.

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[3] Digest 1.1.1: *"ius est ars boni et aequi"*. – For the historical roots in general, reference is made to the articles in ARMGARDT, M. – BUSCHE, H. (eds.). *Recht und Billigkeit*. Tübingen: Mohr Siebeck, 2021.

equity was *"to soften and mollify the extremity of law"*.[4] Today, equity is indubitably part of the law and not its merciful correction *"for the love of God and in the way of charity"*.[5] In modern times, equity is a remedy between the poles of legal certainty through abstract norms on the one hand and individual case justice on the other. As the German *Bundesgerichtshof* (Federal Supreme Court) put it: *"Equity is the resolution of the tension between the abstract-general provisions of the law and the particularities of the individual case, i.e., the establishment of justice in individual cases."*[6] However, role and relevance of equity vary greatly between jurisdictions.

II. EQUITY IN GERMAN PRIVATE LAW

If we look at its position in German private law, the following can be said.

1. STATUTE VS. EQUITY

Under German private law, "equity" is a last resort. The German legal system is primarily based on statutes. At the starting point, when deciding a case, judges apply the law as written in norms and do not put their own idea of a just and equitable result in place of the solution provided by the legislature. Seen in this light, statutes are "curdled equity". This has a lot to do with the separation of powers: it is for the legislature to create the rules and for the courts to apply these rules.

Where, for example, a lessor demands the return of a rented computer after having terminated the lease agreement, it is not the judge's task to consider whether this return would be just and equitable. Rather, it is the task of the judge to apply the norms that order such a return, namely the relevant provision from tenancy law (§ 546 BGB)[7] on the one hand and the relevant norm from property law (§ 985 BGB) on the other.

Similarly, where the tenant has sold the rented computer to a third party, pretending to be the owner of the computer, it follows from statute, namely § 932 BGB, that the third party has acquired title unless they knew or should have known that the vendor was not the owner of the computer (i.e., acted in good faith as defined in § 932(2) BGB). The judge confronted with this case will apply this norm and equity is not a topic in this constellation.

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4 *The Earl of Oxford's Case* (1615) 1 Rep. Ch. 1 = 21 Eng. Rep. 485, 486 at (7); extensively LERCH, K. D. Aufstieg und Fall der Billigkeit im englischen Recht. In: ARMGARDT, M. – BUSCHE, H. (eds.). *Recht und Billigkeit*. Tübingen: Mohr Siebeck, 2021, pp. 345–387.

5 With this formulation, the party turned to the King as the source of all justice and mercy, cf. LERCH, *c. d.*, p. 352.

6 BGH, Beschl. v. 16. 9. 2016 – VGS 1/16 = BGHZ 212, 48 at (32): *"Billigkeit ist die Auflösung des Spannungsverhältnisses zwischen den abstrakt-generellen Regelungen des Gesetzes und den Besonderheiten des Einzelfalls, mithin die Herstellung von Einzelfallgerechtigkeit."*

7 *Bürgerliches Gesetzbuch* [Civil Code]; English text is available: German Civil Code BGB. In: *Federal Ministry of Justice – Federal Office of Justice* [online]. [cit. 2023-06-02]. Available at: https://www.gesetze-im-internet.de/englisch_bgb/index.html.

Finally, "unjust enrichment" is another example in this context. In England, this legal figure stems from equity[8] and it was only in 1991 that the House of Lords acknowledged it as a legal institute.[9] In Germany, unjust enrichment is regulated in the Civil Code, which addresses this legal institution since 1896 in great detail in 11 sections (§§ 812–822 BGB) which in principle leave no room for corrections on the basis of equity considerations.

2. GATEWAYS TO EQUITY

However, this does not mean that a German judge is bound to apply the statutes without exception even if the outcome seems to be unjust or inequitable. During my law studies, one of my professors advised his students: *"Once you have finished your analysis, take a step back from your findings and ask yourself: is this a reasonable result?"* This is a very helpful advice, but what if the answer to this question is *"no, this is not a reasonable result"*? In this case, it may very well be that the legal analysis is wrong. But it may also be that the result, which is unreasonable from the judge's point of view, corresponds to the will of the legislature. In this case, the court must in principle accept the legislature's decision unless *"the contradiction of the positive law with justice reaches such an intolerable degree that the law, as 'incorrect law', must give way to justice"*.[10] Admittedly, this is a rather crude and broad-brush view of the relationship between statutory law and equity, since there are many gateways to equity in German law too.[11]

A) EQUITY AS PART OF THE NORM

First, in many norms, the German legislature has made the term equity a constituent element, i.e., it has made the legal consequence ordered expressly dependent on it being equitable or, in any case, not inequitable. In the German Civil Code alone, the word "equity" occurs in 43 sections,[12] mainly, but not exclusively, in family law where equity is a general principle.[13] The reason for referring to equity is mostly that, in situations as regulated in the respective section, a just and equitable solution depends generally so much on the concrete circumstances of the individual case rather

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[8] Enlightening, SWAIN, W. Unjust Enrichment and the Role of Legal History in England and Australia. *UNSW Law Journal*. 2013, Vol. 36, No. 3, pp. 1030–1052.

[9] *Lipkin Gorman (a Firm) v. Karpnale Ltd*. [1988] UKHL 12 = [1991] 2 AC 548.

[10] So-called "*Radbruch* formula", see RADBRUCH, G. Gesetzliches Recht und übergesetzliches Unrecht. *Süddeutsche Juristen-Zeitung*. 1946, Jhrg. 1, Nr. 5, pp. 105, 107.

[11] Comprisingly, MECKE, CH.-E. – HUCK, W. Billigkeit im Recht oder Billigkeit versus Recht? *Archiv für die civilistische Praxis*. 2020, Jhrg. 220, Heft 6, pp. 861–892.

[12] §§ 253(2), 271a, 284, 288(6), 315(3), 317(1), 319(1), 556a(3), 571(1), 595(7), 660(1), 745(2), 829, 920(2), 971(1), 1024, 1246, 1318, 1360a(4), 1361a, 1361b(3), 1381, 1382, 1383(1), 1568a, 1568b(1), 1570, 1574(2), 1576, 1577, 1578b, 1579, 1581, 1585, 1585a, 1611(1), 1613(3), 1615l(2), 1649(2), 2048, 2057a(3), 2156, 2331a(1) BGB.

[13] Cf. BGH, Beschl. v. 25. 1. 2007 – IX ZB 6/06 = NZI 2007, 298 at (10); BGH, Urt. v. 20. 2. 2003 – IX ZR 102/02 = BGHZ 154, 64 at (27).

than typical circumstances that it is difficult, if not impossible, for the legislature to provide in an abstract rule a solution which fits in all or at least most cases.

Two examples may illustrate this. First, where spouses live in separation, § 1361b BGB establishes a right of one spouse to live alone in the matrimonial residence if this is necessary to avoid "inequitable hardship". The other spouse may demand payment for the use "insofar as this is equitable". Like in many other rules of family law, the legislature refrained from a clear decision in favour of one spouse and referred instead to the circumstances of the individual case by making equity expressly an element of the respective norm.

A second example is § 829 BGB which is part of German tort law and a pure equity-rule. Under §§ 827 and 828 BGB, a person cannot be held liable for damages caused by him or her if this person was unable to perceive the wrongness of its behaviour. This holds particularly true for minors. However, § 829 BGB provides that such a person is to pay damages. *"[U]nless it is possible to obtain compensation of damages from a third party with a duty of supervision, to the extent that in light of the situation given, in particular the circumstances of the parties involved, equity requires indemnification and they are not deprived of the resources needed for reasonable maintenance and to discharge their statutory maintenance duties."*

Interestingly, the legislature, on the one hand, provides for a claim for damages against a person not responsible for its behaviour if "equity requires indemnification" and, on the other hand, tries to specify the facts relevant for determining an equitable solution in the case at hand[14] (compensation claims against a third party that breached its duty of supervision; the situation given; the – primarily: economic – circumstances of the parties; the essential needs of the damaging party).

B) METHODOLOGICAL REMEDIES

Another gateway to equity is applying the instruments of the methodological toolbox.

AA) CONSTRUCTION OF NORMS

In many cases, inequitable results can be avoided by construing the relevant norm in a way that leads to a reasonable outcome. For the construction of contracts, §157 BGB stipulates that the interpretation must be guided by good faith and take customary practice into consideration. Unlike § 932 BGB, which has been mentioned earlier, the term "good faith" here does not refer to the knowledge of an involved party but to the standards of reason, common sense, and honesty, which opens the door to equity, since an inequitable result is not compatible with good faith. For the construction of statutes, no written guidelines are available. However, it is generally acknowledged that statutes should, where possible, be construed in a way that avoids inequitable results.

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[14] Cf. BGH, Beschl. v. 16. 9. 2016 – VGS 1/16 = BGHZ 212, 48 at (39).

A famous example for this comes from the law of unjust enrichment. If a mutual contract turns out to be void, both parties are entitled to demand the return of their performances. This would normally lead to two independent claims, in the case of a sales contract one claim for repayment and one corresponding claim for return of the delivered object. However, according to the prevailing opinion, the two claims are still linked to each other in the way that claims of the same kind are to be off-set against each other, so that only the difference can be demanded, and dissimilar claims can only be asserted with the proviso that the performance has to take place concurrently against the counter-performance. Where, for example, a car worth 9,000 € has been sold for 10,000 € and the sales contract is void, under this so-called "balance theory"[15] the vendor can demand return of the car, but only if they offer concurrent repayment of the purchase price, and vice versa. Where the buyer has destroyed the car in a car accident, they can claim repayment of the purchase price (10,000 €) due to the void contract but in turn has to replace the value of the car (9,000 €); hence, under the balance theory, only 1,000 € can be claimed. All this is not expressly contained in the wording of the German Civil Code, but according to settled case law, which ties on the term "enrichment", it is a *"correction of the law for reasons of equity"*.[16] The fact that it is based on equity also allows exceptions to be made if equity requires a different result, for example if the nullity of the contract results from the lack of legal capacity of a party[17] or from wilful deceit by the party favoured by the balance theory[18].

However, it is important to emphasise that the enforcement of equity by way of construction is subject to the legislature's will and intent. If it is clear that the legislature did not want this result, judges are hindered to come to it by way of construction.

BB) TELEOLOGICAL REDUCTION

Another methodological tool is the teleological reduction. Where a concrete case is covered by the wording but not by the ratio of a norm, the norm can be reduced to its intended scope by adding an unwritten exception. This approach is called "teleological reduction". In this regard, one example may suffice.

Under § 33(1) (sentence 1) LuftverkehrsG,[19] the owner of an aircraft shall be obliged to compensate the damage if, in the course of operating the aircraft, someone is killed, their body or health injured, or property damaged by accident. This norm was invoked by a company, which, on behalf of the airport, had set up measuring instruments at the end of a runway to monitor aircraft movements. The instruments were damaged by a landing aircraft. The company sued the airline, but without success. Referring to equity, the *Bundesgerichtshof* dismissed the action on the grounds that it was the legislative intention that only persons who were in no way involved in the operation of

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15 *"Saldotheorie"*. Leading case is a ground-breaking decision of the German *Reichsgericht* (Supreme Court of the German Empire), Urt. v. 14. 3. 1903 – V 458/02 = RGZ 54, 137, 141 f.

16 See BGH, Urt. v. 19. 1. 2001 – V ZR 437/99 = BGHZ 146, 219, 308; BGH, Urt. v. 8. 1. 1970 – VII ZR 130/68 = BGHZ 53, 144, 147.

17 BGH, Urt. v. 4. 5. 1994 – VIII ZR 309/93 = BGHZ 126, 105, 107.

18 BGH, Urt. v. 8. 1. 1970 – VII ZR 130/68 = BGHZ 53, 144, 147.

19 *Luftverkehrsgesetz*, Aviation Act.

the damaging aircraft were protected by § 33 LuftverkehrsG. Therefore, contrary to its overly broad wording, the provision was to be reduced teleologically.[20]

C) GOOD FAITH-EXCEPTION

Another springboard for equity is § 242 BGB.[21] This norm provides that an obligor has a duty to perform according to the requirements of good faith, taking customary practice into consideration. At first sight, it is a norm of the law of obligations, but it is generally accepted that it is the expression of a general principle of law. As mentioned above in the context of § 157 BGB, the wording of which is nearly identical with § 242 BGB, the term "good faith" refers to the standards of reason, common sense, and honesty. Regarding § 242 BGB, one example may suffice.

According to § 537(2) BGB, a tenant is not obliged to pay the rent as long as the landlord is incapable of granting the tenant use because use has been permitted to a third party. In a case decided by the *Bundesgerichtshof*, the defendant, a tenant of a booth at a trade fair, refused to participate in the fair. The landlord therefore let the booth to another exhibitor free of charge and demanded the rent from the defendant who invoked § 537(2) BGB. This defence was not successful. The *Bundesgerichtshof* referred to § 242 BGB, holding that the defendant acted in breach of good faith, since it was *"inequitable if the tenant derives rights from a conduct of his otherwise contractually faithful contractual partner which he himself brought about by a gross breach of this contract"*.[22]

It should be emphasised, though, that even § 242 BGB is not an authorisation to decide according to equity instead of applying the law. This norm is itself part of the written law and serves as a last resort in extreme cases rather than as a general tool to decide the case at hand.

D) TRANSACTIONS CONTRA BONOS MORES

With § 157 BGB and § 242 BGB, we have already become acquainted with two provisions that belong to the so-called "general clauses". These are norms which do not offer a solution for a concretely described conflict of interests but require in general a fair and honest behaviour. In the case of § 157 BGB and § 242 BGB, this is done by referring to good faith (*"Treu und Glauben"*). In a third norm, which comes from contract law, it is done by referring to morality: according to § 138 BGB, a legal transaction is void if it is *contra bonos mores*, i.e., if it violates principles of morality.[23] In our context, it is of particular interest that case law defines *boni mores* as *"what is in*

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[20] BGH, Urt. v. 8. 11. 2016 – VI ZR 694/15 = NJW-RR 2017, 476 at (12).

[21] Cf. BGH, Urt. v. 29. 6. 1989 – IX ZR 175/88 = BGHZ 108, 179, 183 where the *Bundesgerichtshof* used § 242 BGB as a norm of equity.

[22] BGH, Urt. v. 19. 12. 2007 – XII ZR 13/06 = NJW 2008, 1148 at (30): *"Dabei ist entscheidend, dass es unbillig ist, wenn der Mieter aus einem Verhalten seines sonst vertragstreuen Vertragspartners, das er selbst durch einen groben Vertragsbruch herbeigeführt hat, Rechte herleitet."*

[23] A similar rule is § 826 BGB which provides that a person who, in a manner violating *bonos mores* (i.e., offending common decency), intentionally inflicts damage on another person is liable to the other person to provide compensation for the damage.

accordance with the sense of decency of all equitably and justly thinking people".[24] It should just be mentioned in passing that this definition is not uncritically commented on.[25] However, we can see that we have here another general clause which opens the doors to equity considerations.

III. MORE EXAMPLES: EQUITY IN GERMAN INSOLVENCY LAW

Against this background, we can now turn to the role of equity in insolvency law.[26] This legal field does not give very much room for discretion. It is primarily composed of procedural law and property law. However, even here, equity has its rightful place, and we will see that the gateways to equity are also opened in insolvency law.

1. DETERMINATION OF THE ESTATE

At their core, insolvency proceedings are collective enforcement proceedings which aim at a joint satisfaction of all the debtor's creditors by seizure and realisation of all the debtor's assets (the estate) and distribution of the proceeds to the creditors on a *pro rata* basis.[27] It is therefore the primary task of any insolvency law to determine the insolvency estate. Since it is the idea of insolvency proceedings to realise the debtor's estate existing when proceedings are opened for the benefit of the creditors entitled when proceedings are opened, the estate consists typically of all assets belonging to the debtor at the moment of the opening of the insolvency proceedings.[28] However, there are typical exceptions. Some assets are not part of the estate, be it that they are not seizable and therefore not object of either individual or collective enforcement proceedings, be it that they are not commercialised, not transferable, or worthless.[29]

In Germany, for example, § 36(1) (sentence 1) InsO[30] provides that unseizable assets are not part of the estate. For the seizability, § 36(1) (sentence 2) InsO refers to the respective rules of the Code of Civil Procedure.[31] Of special interest for our topic is § 890b ZPO. Under this rule, the debtor's claims for certain emoluments are only seizable where the enforcement against the debtor's other movable assets has not achieved,

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[24] Most recently, BGH, Urt. v. 15. 11. 2022 – X ZR 40/20 = NJW 2023, 846 at (17): *"was dem Anstandsgefühl aller billig und gerecht Denkenden entspricht"*.

[25] Representatively, BORK, R. *Allgemeiner Teil des Bürgerlichen Gesetzbuchs*. 4th ed. Tübingen: Mohr Siebeck, 2016, para. 1181.

[26] In this article, the English terminology will be used which distinguishes corporate insolvency from personal bankruptcy, whereas, in the USA, the term bankruptcy covers both, corporate and personal insolvency; cf. BORK, R. *Corporate Insolvency Law*. 2nd ed. Cambridge: Insertia, 2023, para. 1.15.

[27] For details, see ibid., para. 1.3.

[28] See ibid., para. 4.5.

[29] Details at ibid., para. 4.12 et seq.

[30] *Insolvenzordnung* [Insolvency Act]; English text is available: Insolvency Code (Insolvenzordnung – InsO). In: *Federal Ministry of Justice – Federal Office of Justice* [online]. [cit. 2023-06-02]. Available at: https://www.gesetze-im-internet.de/englisch_inso/index.html.

[31] *Zivilprozessordnung* [ZPO]. English text available: Code of Civil Procedure. In: *Federal Ministry of Justice – Federal Office of Justice* [online]. [cit. 2023-06-02]. Available at: https://www.gesetze-im-internet.de/englisch_zpo/index.html.

or foreseeably will not achieve, the full satisfaction of the creditor and where the attachment is equitable in light of the circumstances of the case, in particular in light of the nature of the claim to be recovered and the amount of the emoluments. This means, for example, that a debtor's claim against their parents for a maintenance pension is only part of the insolvency estate where other assets are not sufficient to satisfy the creditors' claims (which is typically the case in insolvency proceedings) and the insolvency court finds it equitable to collect the maintenance pension for the benefit of the general body of creditors.[32] This is another example for the legislature's decision to make the term equity expressly a constituent element of a statutory rule.[33]

In a similar case, the debtor was a victim of child abuse by a priest of the Catholic Church which granted the debtor voluntarily a compensation payment despite all legal claims being time-barred. After the opening of insolvency proceedings, the Insolvency Practitioner claimed the compensation payment for the estate. This was rejected by the *Bundesgerichtshof*. The court drew on § 851 ZPO according to which claims are not seizable (and therefore not part of the insolvency estate) if they are not transferrable. Under § 399 BGB, claims are not transferrable if the transfer would lead to a change in the content of the claim. The court affirmed this requirement on the grounds that, from the point of view of equity, compensation should benefit the victim personally. The sole purpose of the material benefit awarded was to alleviate the consequences of the victim's traumatisation in recognition of their suffering and to help the victim cope with stressful life circumstances. The relief intended by the payment could only occur if the payment originated from the sphere of the injurer, i.e., if it remained with the original debtor and the original creditor of the payment. It seemed, so the *Bundesgerichtshof*, impossible that the Catholic Church would have granted the payment if the Insolvency Practitioner could collect the amount for the estate instead of the insolvency debtor.[34] This is an illuminating example of how aspects of equity can influence the interpretation and application of a statutory norm.

However, regular claims are part of the estate, and this entails, that these claims may only be collected by the Insolvency Practitioner and payments to the insolvency debtor are invalid. However, the legislature has granted the third-party debtor protection of trust in § 82 InsO, because, according to this provision, payments by the third-party debtor to the insolvency debtor are effective if the latter was not aware of the opening of insolvency proceedings. According to the *Bundesgerichtshof*, the legislature granted this protection of legitimate expectations "for reasons of equity"[35] – proof that legal norms can be "curdled equity".

In another case, which brought up § 242 BGB, the debtor's real estate was burdened with two mortgages, the second of which was worthless because the value of the

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[32] For examples, see BGH, Urt. v. 15. 7. 2010 – IX ZR 132/09 = NZI 2010, 777 at (40) et seq.; BGH, Urt. v. 3. 12. 2009 – IX ZR 189/08 = NZI 2010, 141 at (10) et seq.

[33] Cf. above at II.1.a.

[34] BGH, Urt. v. 22. 5. 2014 – IX ZB 72/12 = NZI 2014, 656 at (21); similarly for a claim for compensation for excessive duration of proceedings under EU law BGH, Urt. v. 24. 3. 2011 – IX ZR 180/10 = BGHZ 189, 65 at (44).

[35] BGH, Urt. v. 19. 4. 2018 – 19. 4. 2018 – IX ZR 230/15 = BGHZ 218, 261 at (59); see also BGH, Urt. v. 16. 7. 2009 – IX ZR 118/08 = BGHZ 182, 85 at (13).

real estate didn't even suffice to cover the first mortgage. The Insolvency Practitioner intended to sell the real estate. Since the buyer required the mortgages to be deleted, the Insolvency Practitioner asked the holder of the second mortgage unsuccessfully to consent to the deletion. Brought before the *Bundesgerichtshof*, the court held that there was no legal basis for the Insolvency Practitioner's claim for deletion and that *"[t]he surrender of a legally acquired security* […] *cannot be demanded of the creditor solely for reasons of economic expediency or mere equity. The exercise of legal powers is only inadmissible in good faith if it is abused. The exercise of such powers is an abuse of rights and thus inadmissible if it does not serve the purposes provided for by law but other* […] *legally disapprovable purposes* […]. *This may be the case, for example, if the creditor uses his legal position to obtain an advantage to which he is not entitled or if he exercises a right specifically only to harm the other party."*[36]

The *Bundesgerichtshof* was not convinced that an abuse of rights could be established and therefore refused to overrule the defendant's legal position under § 242 BGB for reasons of equity.

2. SET-OFF

Particular challenges arise in connection with off-setting. Creditors who are enabled to set their claims off against counterclaims of the debtor (or the estate respectively) enjoy a special "security" for their claims, since they can satisfy these claims against the debtor by utilising the debtor's counterclaims, similar to a pledge or lien on the debtor's claims.[37] However, this only holds true where the set-off situation existed before the opening of insolvency proceedings. In German law, this is expressly regulated in §§ 94-96 InsO which leave little room for equity considerations.

This can be illustrated by a landmark decision of the *Bundesgerichtshof*. In the underlying case, the Insolvency Practitioner claimed payment from a third-party debtor of the insolvency debtor. The third-party debtor pleaded that he had paid debts of the insolvency debtor and could set-off the claim for recourse against the insolvency debtor's claim. However, since the payment was made after the opening of the insolvency proceedings, the set-off situation did not exist before the commencement of the proceedings. The set-off therefore failed due to §§ 94 et seq. InsO. The *Bundesgerichtshof* refused to bring equity into play via § 242 BGB, arguing that the principle of equal treatment of creditors trumped all reasons of equity.[38]

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[36] BGH, Urt. v. 30. 4. 2015 – IX ZR 301/13 = NZI 2015, 550 at (8): *"Die Aufgabe eines* […] *rechtmäßig erworbenen Sicherungsmittels kann dem Gläubiger deshalb nicht allein aus Gründen wirtschaftlicher Zweckmäßigkeit oder bloßer Billigkeit abverlangt werden. Nach Treu und Glauben unzulässig ist die Ausübung rechtlicher Befugnisse im Rahmen der vollstreckungsrechtlichen Rechtsbeziehung nur im Falle ihres Missbrauchs. Rechtsmissbräuchlich und damit unzulässig ist die Ausübung solcher Befugnisse, wenn sie nicht den gesetzlich vorgesehenen, sondern anderen* […] *rechtlich zu missbilligenden Zwecken dient* […]. *Dies kann etwa der Fall sein, wenn der Gläubiger seine Rechtsstellung dazu benutzt, um einen anderweitigen, ihm nicht zustehenden Vorteil zu erlangen, oder wenn er ein Recht gezielt nur zur Schädigung des anderen Teils ausübt."*

[37] *Stein v. Blake (No 1)* 2 WLR 710. For details, see BORK, *Corporate Insolvency Law*, para. 5.49 et seq.

[38] BGH, Urt. v. 14. 7. 2005 – IX ZR 142/02 = NJW 2005, 3285 at (16); see also BGH, Urt. v. 2. 12. 2004 – IX ZR 200/03 = BGHZ 161, 241 at (41).

3. TRANSACTIONS AVOIDANCE

An important part of insolvency law is transactions avoidance law. Rules on transactions avoidance are aimed at the rescission of, or the compensation for, transactions that are detrimental to the general body of creditors and have been performed prior to the opening of insolvency proceedings. The "effect of the opening of insolvency proceedings" is typically the shift of the power of disposal from the debtor to the Insolvency Practitioner. Hence, transactions made by the debtor *after* the opening of the proceedings are in most jurisdictions not valid, since the debtor no longer has the power to administer and dispose of their assets. As opposed to this, transactions performed *prior* to the commencement of insolvency proceedings are normally not affected, since the estate is not seized retroactively. This leaves performances of the debtor, e.g., gifts to the spouse or payments to creditors, untouched. However, in almost all national laws, under certain conditions, this might be contrary to foundational principles of insolvency law. They therefore mitigate the harsh consequences of the clear cut-off date (opening of the proceedings)[39] and allow for certain transactions to be challenged in order to tackle unacceptable displacements of assets benefitting the recipient.

The rules on transactions avoidance are the expression of a balance of underlying principles, above all the principle of equal treatment of creditors on the one hand and the principle of the protection of trust (or: legitimate expectations) on the other.[40] In this respect they are themselves "curdled equity" and no further equity control is necessary.

In rare cases, however, equity also comes into play in transactions avoidance law. For example, in a case decided by the *Bundesgerichtshof*, the debtor had given an apartment building gratuitously to his wife, who rented out the property. After the opening of insolvency proceedings, the Insolvency Practitioner challenged the transfer of the property as a transaction at an undervalue and demanded the return of both the house and the rents received. The wife objected that the Insolvency Practitioner's claim should be reduced by the value of the administrative services she had provided for the property. This defence was accepted by the *Bundesgerichtshof*. The court referred to § 102 BGB, according to which those who have a duty to surrender fruits may claim reimbursement of the costs of producing the fruits, and argued that the application of this rule in the context of transactions avoidance law was necessary for reasons of equity.[41]

In a second case, the Insolvency Practitioner challenged payments to an employee of the insolvent debtor. Although all prerequisites for the avoidance of this transactions were met, the defendant argued that employees should be exempted from transactions avoidance for social and equity reasons. The *Bundesgerichtshof* did not accept this argument, emphasising the relevance of the principle of equal treatment of creditors:

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[39] Cf. *Angove's Pty Ltd v. Bailey* [2016] UKSC 47 at [25].

[40] Intensively on the principles of transactions avoidance law BORK, R. –VEDER, M. *Harmonisation of Transactions Avoidance Laws*. Cambridge: Intersentia, 2022, para. 2.74 et seq.

[41] BGH, Urt. v. 24. 1. 2019 – IX ZR 121/16 = NZI 2019, 372 at (17).

"If the courts were allowed to differentiate the prerequisites for avoidance with regard to different groups of creditors, this would ultimately amount to an allocation of the estate on the basis of a judicial equity decision."[42]

4. DISCHARGE

Insolvency proceedings normally only result in partial satisfaction of the creditors' claims. The unsatisfied part of the claims continues to exist, and the creditor can demand performance if the debtor achieves a new estate after the termination of the insolvency proceedings. However, in personal bankruptcies, many jurisdictions provide for a statutory discharge of the residual debt. This holds also true for Germany where the debtor can be granted a discharge under §§ 286 et seq. insO under the condition that he or she accepted – during a compliance period which used to be six years and is now three years – any reasonable employment and transferred the attachable part of the resulting income to a trustee for the benefit of the creditors. When the compliance period was six years, the debtor could apply for a premature discharge provided they managed to satisfy 35% of the claims within the first three years. In a recent case, the debtor paid 35% but only four weeks after the expiry of the three years period. She applied for premature discharge, arguing that it would be inequitable to deny the discharge because the three-year time limit had only been slightly exceeded. The *Bundesgerichtshof*, however, rejected this argument, holding that every statutory deadline is ultimately set arbitrarily and that this is acceptable because it serves legal certainty precisely because of the rigidity of the time limit.[43] This fits in with the general line of the *Bundesgerichtshof*, which is generally very cautious when it comes to disregarding missed deadlines for reasons of equity.[44]

Once discharge is granted, the debtor is no longer obliged to pay. However, § 302 InsO[45] provides that certain claims are exempted, in particular fines and claims from intentionally committed torts. It is interesting, that the *Bundesgerichtshof* assessed this norm as an appearance of equity: *"Ultimately, it is equity considerations that underlie the statutory regulation. The law considers it inequitable that a debtor is released from liabilities to a creditor whom he has intentionally harmed."*[46] In this interpretation, § 302 InsO is a good example for the thesis that statutes are – or at least can be – "curdled equity".[47]

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42 BGH, Urt. v. 10. 7. 2014 – IX ZR 192/13 = BGHZ 202, 59 at (25): *"Würde den Gerichten gestattet, die Anfechtungsvoraussetzungen im Blick auf unterschiedliche Gläubigergruppen jeweils zu differenzieren, liefe dies letztlich auf eine Zuteilung der Masse aufgrund richterlicher Billigkeitsentscheidung hinaus."*

43 BGH, Beschl. v. 19. 9. 2019 – IX ZB 23/19 = NJW 2020, 60 at (24).

44 Cf. BGH, Urt. v. 1. 10. 1987 – IX ZR 202/86 = NJW 1988, 266, 267.

45 For other jurisdictions, see BORK, *Corporate Insolvency Law*, para. 9.22.

46 BGH, Urt. v. 1. 10. 2020 – IX ZR 199/19 = NZI 2021, 36 at (24): *"Letztlich sind es Billigkeitsgesichtspunkte, die der gesetzlichen Regelung zu Grunde liegen. Das Gesetz hält es für unbillig, dass ein Schuldner von Verbindlichkeiten gegenüber einem Gläubiger befreit wird, den er vorsätzlich geschädigt hat."* See also BGH, Urt. v. 25. 6. 2015 – IX ZR 199/14 = NJW 2015, 3029 at (14).

47 Above at II.1.

IV. OVERALL PICTURE

When summarising the results of these reflections, the following picture emerges.

First, in German law, equity is a last resort. In German civil law, as in most continental legal systems, there is a predominance of statutory law. This is ultimately based on the separation of powers, under which it is primarily the task of the legislature to provide guidelines for decision-making. Against this background, statutory norms often prove to be "curdled equity". In principle, this leaves little room for judicial decisions on equity.

Second, no statute-based jurisdiction can ignore the fact that the legislature can only prescribe standardised solutions that may not fit in a specific individual case. Therefore, there are gateways to equity in Germany as well. Such gateways are sometimes opened by the legislature itself, in particular by expressly referring to equity in the wording of the relevant norm. Sometimes, general clauses can help which refer to good faith or the principles of decency, thus opening the doors to equity when construing or applying the law. And sometimes we can pick from the methodological toolbox in order to justify an equitable result.

Third, it is generally agreed that these instruments have to be handled restrictively and always with a view to the will of the legislature. This is in line with the historical origins of equity jurisprudence, which was always intended to mitigate overly harsh consequences of the application of the written law because of the concrete circumstances of the individual case. This does not call into question the fundamental primacy of written law.

Fourth, little is known about the methodology of equity, i.e., the rules that guide equity decisions. A few remarks may suffice. It follows from what has just been said that it does not suffice to simply refer to equity. It is not enough to reason a decision with sentences like "it is a requirement of equity" or "it corresponds to equity", since this would be nothing more than an attempt to give the judge's gut feeling a professional touch. Instead, it is necessary to substantiate in more detail *why* equity requires the result found. To this purpose, all equity decisions must take all relevant circumstances of the individual case into account. The factual inventory must be complete. Further, all these circumstances must be examined thoroughly to determine whether the case is so exceptional that a deviation from the regular legislative solution is justified. Equity is not a free ride to judicial arbitrariness. The weighing and balancing of the relevant circumstances must therefore be conducted in the light of the objective of the statutory norm and with respect to the tenets and principles underlying this norm. To put it in the language of procedural law, the decision must be so thoroughly and convincingly reasoned that both the parties and higher instances can accept that the equity decision found is admissible and justifiable.

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ACTA
UNIVERSITATIS
CAROLINAE

IURIDICA 2/2024
Vol. LXX

The journal Acta Universitatis Carolinae – Iuridica is registered in the Czech National Bibliography (maintained by the National Library of the Czech Republic), on the list of peer-reviewed scientific journals of the RVVI, in the Index to Foreign Legal Periodicals (maintained by the American Association of Law Libraries) and is also indexed in the Central and Eastern European Online Library (www.ceeol.com) and included in the DOAJ (Directory of Open Access Journals) and Scopus databases.

Scientific Editor: prof. JUDr. Jakub Handrlica, LL.M., Ph.D., DSc.
Published by Charles University
Karolinum Press
Ovocný trh 560/5, 116 36 Prague 1
Czech Republic
www.karolinum.cz
Prague 2024
Set by DTP Karolinum Press
Printed by Karolinum Press
Periodicity: 4×/year
ISSN 0323-0619 (Print)
ISSN 2336-6478 (Online)
MK ČR E 18585