

DIGITAL TRANSFORMATION AND ITS SOCIAL AND ADMINISTRATIVE-LEGAL IMPLICATIONS. FROM HOMO SAPIENS TO HOMO DIGITALIS

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Abstract. The ongoing digital transformation that we are experiencing as humanity requires in-depth analysis at many levels of research. In the field of law and administrative procedure, the issue of automated administrative decision-making in individual cases is of particular importance. That is, the making and issuing of decisions in the process of applying the law. Against this background, a number of concerns and questions arise, not only of a legal nature, but also of a social nature, related to the perception of the human being in an intensely digitally changing reality. As can be surmised, never before in the development of administrative law has the consideration of ethical issues in the context of administrative procedure been so frequently addressed. One of the fundamental questions is whether this act of applying the law, hitherto performed by a human being, can be performed by a device/algorithm?

Keywords: digital transformation; administrative law and procedure; automated administrative decision-making; artificial intelligence

INTRODUCTION

The digital transformation currently taking place – seen as the fourth industrial revolution¹ – and the transformations it implies are becoming a key driver of social transformation.² At the same time, this transformation is affecting all economic, social and societal systems.³ It is the sixth

¹ See https://irp-cdn.multiscreensite.com/be6d1d56/files/uploaded/190830-Six-Transformations_working-paper.pdf [accessed: 21.03.2023].

² See <https://www.idos-research.de/uploads/media/TW12050-for-web.pdf> [accessed: 17.03.2023].

³ A slightly different view is presented in the Report “Towards our Common Digital Future”, which concludes that “Digitalisation” is often – erroneously – described as a massive upheaval facing our societies and to which we must adapt. The authors of the Report oppose this interpretation, arguing that digitalisation must be shaped in such a way that it can serve as a lever and support for the Great Transformation towards a sustainable world, and can be synchronised with it. Detailed position paper available in a report published at https://www.researchgate.net/publication/332414643_Towards_Our_Common_Digital_Future_Summary_WBGU_Flagship_Report [accessed: 21.03.2023].

building block of what is referred to as “The Sustainable Development Goals (SDGs).”⁴ Furthermore, the digital transformation that we as humanity are witnessing is affecting the development and psycho-physical state of the entire population in an unprecedented way. Today, modern technologies are an essential part of the life of modern society. However, human involvement with them often leads to information overload and digital stress as a result of information overload, distraction, over-stimulation and a sense of living on the run and under time pressure. This is referred to as digital “fast food”. Its opposite is “slow content” which consists of selecting valuable content for which the viewer deliberately looks online.

In this context, taking into account the axiological issues, the doubt expressed by St. John Paul II in the Encyclical *Redemptor hominis* remains topical and requires consideration: “The question which persistently recurs concerns what is most essential: is man, as man, in the context of [technological] progress, becoming better, spiritually more mature, more aware of the dignity of his humanity, more responsible, more open to others, especially to those in need, to the weak, more ready to witness and to help everyone?”⁵

1. THE INFORMATION REVOLUTION

The information revolution has undoubtedly, on a much wider scale than before, provided universal access to information. At the same time, however, it has opened up a wide field for disinformation, fuelling distrust and causing polarisation of views. The overabundance of information – among which there is a certain amount of misinformation – makes it difficult to verify it quickly. At the same time, the impact of new technologies on human mental and cognitive abilities is noted. In particular, this concerns attention span, inability to concentrate and attention deficit syndrome [Campo 2022]. In this area, threats besides disinformation include information noise and the phenomenon of “post-truth” [Skrabacz and Lewińska-Krzak 2022, 134].

⁴ The first five modules consist of: 1) education, gender and inequality; 2) health, well-being and demography; 3) decarbonisation of energy and sustainable industry; 4) sustainable food, land, water and oceans; 5) sustainable cities and communities. Profound transformations in each of the above areas require complementary action by governments, civil society, science and business. “The World in 2050” (TWI2050) is a global, multi-year, multi-stakeholder and interdisciplinary research initiative to help address the issues covered by all of the modules listed above, including the module on the digital revolution, see <https://www.idos-research.de/uploads/media/TWI2050-for-web.pdf> [accessed: 17.03.2023].

⁵ John Paul II, Encyclical letter *Redemptor hominis* (04.03.1979), https://www.vatican.va/content/john-paul-ii/en/encyclicals/documents/hf_jp-ii_enc_04031979_redemptor-hominis.html [accessed: 28.11.2023].

2. CHALLENGES OF COGNITIVE ENHANCEMENT

The enhancements provided by the widespread use of the internet and mobile applications significantly increase our cognitive capacity, acting as a kind of external memory and depositories of knowledge. At the same time, the overabundance of data makes it difficult to identify reliable knowledge and truth among the flood of information. Therefore, the pursuit of reliable and responsible use of data/responsible data science should be considered a key issue. In this context, the development of standards for the use of data, especially personal data, in a fair, transparent and confidential manner should be considered essential.

3. CHALLENGES OF THE DIGITAL SOCIETY

The challenges of the digital revolution that whole societies now face have already been recognised and sought to be identified in some countries. For example, in the Netherlands, where a “digital society”/“Digital Society” programme has been developed. The Association of Universities in the Netherlands (VSNU) has brought together leading researchers from all fourteen universities in the country to work together on a number of pressing issues related to the functioning of the digital society. Dutch universities benefit from an excellent digital infrastructure to support education and research in this area. The Netherlands has a long-standing culture of openness and collaboration in human-centred digital society research. Digital Society research is based on observing how culture, society and digital technologies influence each other. Researchers seek to develop a complementary and interdisciplinary environment in which digital technologies are developed precisely so that different, legitimate actors can intervene to ensure their optimal use and further development. This is not about ‘mere’ technical problems with technical solutions, but rather about the complex social, ethical and political issues facing all levels of government, public and private organisations and individuals in their daily lives. For example, a good ‘smart city’ is a city in which citizens, city authorities, infrastructure providers, schools, cultural organisations and employers work together to create a living environment that works for society as a whole. The “Digital Society”/“Digital Society” programme identifies seven main issues to focus on, building on existing knowledge and interest.⁶

⁶ See <https://www.thedigitalsociety.info/challengesofadigitalsociety/wp-content/uploads/2018/11/VSNU-Disa-2018.pdf> [accessed: 17.03.2023].

4. ARTIFICIAL INTELLIGENCE

Human intelligence has had no rival since the emergence of Homo sapiens. It is now being supplemented by artificial intelligence, which, at least in some areas, far surpasses human analytical abilities.⁷ The origins of artificial intelligence, related to the concept of creating intelligent machines as independent entities, can be traced as far back as the late 18th and early 19th centuries. A. A. Lovelace and her friend and fellow mathematician Ch. Babbage invented the concept of a programmable machine, which is considered the prototype of the modern computer [Oksanowicz and Przegalińska 2023, 27] .

One of the pioneers of AI is considered to be A. Turing. In 1935, Turing described an abstract computing machine composed of an unlimited memory and a scanner that moved back and forth through the memory, symbol by symbol, reading whatever it encountered and noting the subsequent symbols. The scanner's actions were guided by a programme of instructions, which was also to be stored in the machine's memory in the form of symbols. This concept gave rise to the idea of a machine/device operating on the basis of its own programme, with the possibility of modifying or improving it. The Turing concept is now known as the universal Turing machine. All modern computers are considered to be universal Turing machines.⁸

Since J. McCarthy used the term artificial intelligence (AI) in the 1950s, it has become a key concept in the technological development of all mankind. It has appeared in every area of life and science. AI is found in areas that previously – it seemed – were reserved for decision-making by human beings. Artificial intelligence is based on the interpretation of large amounts of data, used in algorithms. According to the contemporary definition, artificial intelligence encompasses an area of knowledge that includes fuzzy logic, evolutionary computing, neural networks, artificial life and robotics, and one of its special features is its ability to learn [Kaim 2020] and to take new circumstances into account, in the course of solving a given problem [Zalewski 2020, 2]. In other words, artificial intelligence is the ability of a machine to mimic or imitate human intelligence [ibid., 14]. It involves creating models of intelligent behaviour and building programs that are capable of reproducing such behaviour [Oksanowicz and Przegalińska 2023, 32]. Artificial intelligence should be understood as a system capable of performing tasks that require a process of learning and taking into account new

⁷ *The Digital Revolution and Sustainable Development: Opportunities and Challenges*, <https://www.idos-research.de/uploads/media/TWI2050-for-web.pdf> [accessed: 17.03.2023].

⁸ See <https://www.britannica.com/technology/artificial-intelligence/The-Turing-test> [accessed: 22.11.2022].

circumstances in the course of solving a given problem, which can – depending on its design – act autonomously and interact with the environment [Zalewski 2020, 3]. A glaring example of artificial intelligence, the essential feature of which is the ability to learn, is the actions of the robot Deep Blue, which won a chess game against the master Garry Kasparov nearly 30 years ago. The first winning game took place on 10 February 1996. After losing the match, Kasparov said that at times he saw deep intelligence and creativity in the machine’s moves that he himself did not understand. Importantly, the ability of a given system to learn is a prerequisite for it to be classified as artificial intelligence [ibid., 14].

Algorithms are not a novelty. Over the decades, they have been used in computer programmes. Today, however, advanced algorithms have become digital robots – often being evolved computer programmes (rather than physical entities as before) with the ability to adapt and “learn”. The early AI systems of the mid-20th century, often referred to as expert systems, were in principle comprehensible to both the creator and the user because they operated according to defined rules. Expert systems were primarily intended to transparently represent relationships in order to explain multi-causal phenomena. Although this identifiability can be considered a strength, early AI systems could only represent the real world incompletely [Etscheid 2019].

Contemporary AI systems, in foreign literature, are compared to the operation of a “black box”/black box. In this view, this black box makes decisions but is unable to communicate the motives behind the decision. Thus, when solving a problem, an artificial intelligence provides the final result, but does not answer the question: why/how? The fundamental “black box” problem boils down to the artificial intelligence’s inability to fully analyse and understand its decision-making process and its inability to predict its decisions or the results of its actions. This is because the thought process of an artificial intelligence may be based on assumptions and patterns that human perception will not be able to fully trace and reproduce. Moreover, this may also mean that even the people who created or implemented the AI in question may not be able to predict what solutions it will arrive at or what decisions it will make and why [Bathae 2018, 893].

5. AUTONOMY

Autonomous systems that make autonomous decisions based on the data they have are already being used in industrial production to control production processes, in public spaces to improve public safety and to predict and monitor human behaviour (e.g. in relation to prisoners in the context of possible recidivism). In the future, such autonomous systems will be used

in many different ways: in transport (autonomous driving), in the banking system, in the social sector, in the judicial system and in political negotiation processes. They can recognise patterns that are hidden from humans due to their complexity or large amounts of data. They can also help to make more informed economic, political and social decisions, but they can also lead to a loss of social control, abuse of power or infringement of privacy and freedom.⁹

6. ISSUANCE OF ADMS DECISIONS

One possibility for the use of artificial intelligence is for it to issue administrative decisions in individual cases. Automatic decision-making – Administrative Decision Making System – should take place in simple and routine cases, i.e. those in which there can always be only one outcome/resolution. An example of this type of case is the issuing of decisions in housing allowance cases, the amount of which boils down to an arithmetically calculated allowance, according to a mathematical formula defined by the legislator. The issuing of decisions through ADMS can undoubtedly increase the efficiency of public administration, however, negative, discriminatory consequences should also be borne in mind, such as violating individual privacy, devaluing human skills, undermining human self-determination. Therefore, new governance mechanisms are needed to ensure that the implementation of ADMS is done in an ethical manner while allowing the full benefits of the system to be reaped. If ethical challenges are not sufficiently addressed, the lack of public trust in ADMS may hinder the widespread implementation and adoption of such systems. In this regard, the literature points to the need for ethics-based auditing. This is a structured process whereby an entity's current or past behaviour is assessed for compliance with relevant principles or standards [Mökander, Morley, Taddeo, et al. 2021].

7. ETHICS AND ADMINISTRATIVE PROCEDURES

According to J. Tischner, “Man is by nature an ethical being, that is, someone for whom the problem of ‘ethos’ is at the same time the problem of his own being” [Tischner 1982]. However, as John Paul II noted – almost half a century ago – in the Encyclical *Redemptor hominis*: “The development of technology and the development of modern civilisation, marked by the reign of technology, demand a proportional development of morality

⁹ See https://www.researchgate.net/publication/332414643_Towards_Our_Common_Digital_Future_Summary_WBGU_Flagship_Report [accessed: 21.03.2023].

and ethics. Meanwhile, the latter seems, unfortunately, to be still lagging behind.”

Nowadays, issues related to ethics in the context of the application of artificial intelligence in the area of public space assume particular importance. According to the guidelines adopted by the Polish Council of Ministers, an AI system should comply with the ethical principles envisaged for trustworthy AI, such as: 1) the supervisory role of the human being, 2) technical soundness and safety, 3) privacy protection and data management, 4) diversity, non-discrimination and fairness, 5) social and environmental well-being, 6) transparency, 7) accountability and responsibility.¹⁰

8. STILL HOMO SAPIENS OR ALREADY HOMO DIGITALIS?

In evolutionary terms, Homo Sapiens is a creation of the Ice Age, in which environmental conditions were characterised by rapid and massive change. Humans of the time had to organise themselves as hunters and gatherers in small, highly mobile groups. The advantage of the species lay not in the shaping of living conditions, but in perfect adaptation to the given circumstances. This advantage was partly offset by the transition to sedentary agriculture. Individually, Neolithic people were probably weaker and more prone to disease than their early ancestors. However, these disadvantages were offset at the level of the population as a whole by new opportunities (such as stockpiling), allowing the population to grow markedly. A similar process took place during the Industrial Revolution, which ultimately brought a rapid acceleration of social metabolism and population dynamics in the 20th century. There are many indications that the digital innovations that are now beginning are likely to transform human characteristics and the structures of human coexistence even more radically – depending, of course, on how – as humanity – we manage, constrain or prevent them.¹¹

At the same time, it cannot be overlooked that the free development of AI technologies is accompanied by social fears and a lack of complete acceptance, even though the Covid-19 pandemic undoubtedly influenced greater acceptance of innovative technologies and increased their use. Currently, the reality of *science-fiction* films, as never before, requires in-depth reflection, including legal reflection, because in recent years the term “artificial intelligence – AI” has started to appear on a large scale in legal sciences.

¹⁰ Annex to Resolution No. 196 of the Council of Ministers of 28 December 2020.

¹¹ See https://www.researchgate.net/publication/332414643_Towards_Our_Common_Digital_Future_Summary_WBGU_Flagship_Report [accessed: 21.03.2023].

9. EXISTENTIAL AND SOCIAL CONCERNS AND QUESTIONS

There are many general claims and expectations in the field under discussion, often quoted in the public space, where less specific analyses and data are often pointed to. The public perception is that the digital transformation is likely to eclipse all previous phases of technological progress in terms of scope, speed of spread and impact on all areas of social life.¹²

The ongoing digital transformation is accompanied by numerous concerns. For example, S. Hawking already saw the development of artificial intelligence as the end of the human race many years ago. S. Hawking saw the development of AI as the end of the human race [Coglianese and Lehr 2017, 1150-151]. Consequently, fears are being voiced about the emergence of digitally enhanced totalitarianism, fears of elite domination, fears of increased social inequality, fears of total surveillance and loss of freedom and social cohesion, fears about the evolution of artificial humans and the blurring of boundaries between humans and machines, fears about whether animated artificial entities with autonomous decision-making and reproductive capabilities could emerge in a later phase of the digital revolution.

Numerous questions are being formulated in this connection: What tasks will intelligent machines handle better than humans? How can we avoid the creation of digital, self-organising systems and networks, with potential control over human behaviour, which can be misused by powerful actors? Where is the limit when it comes to using technology to change and improve human cognitive abilities?

10. COMPLETION

We are most likely standing at the door of a new stage of human development. The future is open, but the direction of change is unknown. In the current situation, the highest priority should be to establish appropriate ethical standards and rules in a humanocentric spirit.

Virtual access to the most advanced global knowledge of humanity and the planet should be used to achieve a just, dignified and secure future for all. Against this backdrop, the absence of certain standards may trigger threats to the values that have been nurtured so far. In view of this, the digitalisation process and related technologies must be shaped accordingly. The challenge is undoubtedly to avoid the risks associated with accelerated technological change spiralling out of control.

¹² Ibid.

In the digital age, at least two fundamental objectives can be identified: on the one hand, to exploit the enormous potential of the new information and communication technologies to achieve global sustainability and, on the other hand, to prevent the possible, indeed highly probable, negative side effects of rapid innovation. Against this background, there are a number of more or less real concerns and a great many questions, many of which remain unanswered for the time being.

Against the background of doubts and concerns about the application of AI in the sphere of public administration, the following questions are formulated in the doctrine of administrative law: are society and the state ready for a situation in which it will not be possible, or will be significantly impeded, to know the reasoning and motives of the decision made by an algorithm. The fundamental question is whether an algorithm can/is entitled to fully replace a human being in the process of applying the law? Thus, will it be socially acceptable that an administrative decision issued in an individual case may be the result of the actions of a machine and not a human being? Does the justification of the act of applying the law made by a human being as opposed to a decision made by modern technology provide a full guarantee of a complete explanation of the process and the final decision? Do we, as a society, expect an administration that can provide the individual with a detailed justification for every decision or an administration that acts efficiently and quickly [Piecha 2021, 786-87].

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