

The opportunities of digitalisation in public administration, with a special focus on the use of artificial intelligence (iThenticate Similarity Report)

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ABSTRACT

The study examines the issue of digitalisation of public administration, explores - after outlining the theoretical foundations - the international framework for the creation of digital public administration, and then discusses the developments in Hungary and their evaluation. In Hungary, the related legislation was initially introduced with the introduction of electronic administration, the anomalies of which were first noticeable with the introduction of electronic birth registration. In this context, the study discusses the possibilities of applying artificial intelligence in the public sector, and finally, it reviews current and existing applications and good solutions, and also discusses possible development directions. The article describes the successes of AI applications in the financial sector, and then goes on to discuss automated decision making in more detail, as well as the planned legislative thinking on the subject.

Keywords: public administration; artificial intelligence; digitalisation; democracy; patient-friendly process

INTRODUCTION AND METHODS

In our era - which many rightly describe as the reality of the permanence of change - public administration (including its organisational structure, its operational mechanisms and its staffing framework) does not (and cannot) remain unchanged, cannot be independent of the trends of the world around it, and so it can be said that public administration is constantly evolving. One of the greatest challenges of our time is digitalisation in the broadest sense, which has required a reorganisation of both the public administration's approach to citizens and its infrastructure in all the world's countries.²

It is also worth pointing out that, however inevitable the emergence of the digital explosion in the public sector may be, experience to date - especially in the CEE region - does not necessarily suggest that it is a complete success story. The reasons for this include the

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² See for example: Hoffman I. – Cseh K. B., *E-administration, cybersecurity and municipalities – the challenges of cybersecurity in cities for the municipalities in Hungary*. „Cybersecurity and Law” 2020, 4 (2), pp. 199-211. and Karpiuk M., *The Local Governments' Position in the Polish Cybersecurity System*. „Lex localis” 2021, 19(3), pp. 609-620.

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difficulty of taking organisational and procedural aspects into account at the same time, the slow and costly process of building infrastructure, and the general resistance to change (especially in human resources), which is also a classic barrier to innovation.³

For the sake of completeness, however, the author of this paper cannot fail to highlight the undisputed virtues of optimal digitisation of public administration, which are also relevant to this paper. There is a consensus in the relevant foreign literature that the use of proven digital tools can have a pull effect, which can legitimise the use of new technological tools in new sectors not previously affected by digitisation.⁴ This effect is reinforced by the fact that standardised platforms and other digital solutions from the competitive sector can be easily transferred to public administrations, within certain scope and under certain conditions. The reason for this is essentially to be found in the theoretical approach to public administration, which is that public administration and private administration are more similar than different in content and purpose, so that the successful automation (digitalisation) of certain elements of the administrative cycle does not (in many cases) pose application problems in public sector administration.⁵ In fact, this intermediary, interactive online value creation activity is a phenomenon that is also familiar in the 'traditional' offline economy, which generally operates on the technology and infrastructure of a business.⁶ On the other hand, it should also be stressed that technological tools can be used to a greater extent to achieve and reinforce the objectives declared as goals to be achieved by national and EU public administration policy (e.g. customer focus, efficiency, subsidiarity, etc.), particularly with regard to the activities of public authorities and the organisation of public services. In this context, I would like to refer to the indicators of the so-called DESI (Digital Economy and Society Index), which ranks the

² Another unfortunate development is that in Hungary there have recently been several articles published which - in addition to presenting the results achieved - emphasise why there is no need or opportunity for further digitisation in public administration. Among others, the study by Erzsébet Fejes and Iván Futó, cited later, can be mentioned in this context.

⁴ An excellent example of this is the range of applications tested in Hungarian tax administration practice, which have subsequently had an impact in other sectors, also related to the financial sector.

⁵ For a more detailed discussion of public administration as administration, see. Rozsnyai K., *A közigazgatás meghatározása (Determination of public administration)*, [in:] *Közigazgatási jog I (Administrative Law I)*, ed. Fazekas M., ELTE Eötvös Kiadó, Budapest 2019. pp. 31-34.

⁶ On the competition law aspects of this, see. Firmiksz J.: *RANGSOROLÁS – ÚJ SZÁMÍTÁSI IGÉNY A PLATFORMOK ÉS AZ INFORMÁCIÓS TÚLTERHELTSÉG KORÁBAN (RANKING - A NEW REGULATORY NEED IN THE AGE OF PLATFORMS AND INFORMATION OVERLOAD)*, [in:] *Verseny és Szabályozás (Competition and Regulation)*, eds. P. Valentiny – K. Antal – I. Cs. Nagy – Zs. Berezvai, Budapest 2021 https://kti.krtk.hu/wp-content/uploads/2022/01/vesz2021_6-FirmikszJ.pdf (31.07.2022)

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countries of the Central and Eastern European Union in the bottom third of the scale, in particular in terms of the efficiency of public services.⁷

⁵ The emergence and dynamism of the role of artificial intelligence in the context of the digitalisation of public administrations, especially today, cannot be overlooked. On the one hand, it is seen by many as a new era of digitalisation, and on the other hand, its mechanisms and automatism could put public administration (decision-making) on a new footing, which calls for scientific study. The following general questions, which are difficult to answer at this stage, can be formulated in the context of the applicability of AI:

- does the use of artificial intelligence enable more efficient public administration?
- what are the risks of using artificial intelligence in the public sector?
- what conditions are necessary for safe use?
- what is the added value of using artificial intelligence?

For reasons of scope and genre, this paper does not attempt to provide a full answer to the questions, but it does seek to outline the main opportunities and issues raised by the application of AI in the public sector.

The analysis of the presentation will be based mainly on the jurisprudential method. However, several significant economic data and the approach of the policy analysis will be applied, as well.

¹ TYPES OF PUBLIC ADMINISTRATION AND THE POTENTIAL OF AI: A SHORT REVIEW OF THE LITERATURE AND THE REGULATION

¹ In the context of the core activities of public administration, the relevant organisational law doctrine distinguishes between types of activities of a public authority nature, activities deriving from a position of organisational or proprietary power, and so-called non-power activities.⁸ In this paper, I will only refer to the basic activities relevant for AI (such as strategy formulation, organisation of internal processes, information to customers and substantive administration) and link the scope of application of AI technologies to these activities.

² ² <https://digital-strategy.ec.europa.eu/en/policies/desi> (31.07.2022) According to the index, Hungary ranks 23rd, Slovakia 24th, Poland 25th and the Czech Republic 18th, with slightly better indicators.

⁸ For a detailed discussion of this see. Szalai É., *A közigazgatás működése, tevékenységfajtái (Functioning of public administration, types of activities)*, [in:] *Közigazgatási jog I. (Administrative Law I.)*, ed. Fazekas M., ELTE Eötvös Kiadó, Budapest, 2015. pp. 71-92.

As a starting point, it should be noted that policy-making can be understood more as part of governmental activity, despite the fact that planning itself has a specific legal basis in administrative law, and that management activity can be understood within an institution (and thus not in a public authority aspect). Strategy formulation can be considered a specific administrative activity in two respects: firstly, it is a transition between normative and specific acts (although normativity is indispensable in formal terms), and secondly, it is a type of activity in which non-legal, policy-related aspects are more often present. This also means that strategy-making presupposes, on the one hand, the acquisition of information (data mining) and, in many cases, the need to automate the drafting process, but the end result always presupposes the involvement of the human factor in decision-making. In this context, it is necessary to refer to the constant 'circus act' that the legislator is forced to perform in order to balance the optimisation and idealisation of regulation in any sector⁹.

Based on the above, it can be concluded that there are AI-based tools that can support these activities (e.g. digitalisation of impact assessment, use of chatbots, machine vision or speech understanding), but I will not focus on these in this paper, so in the following I will focus on technologies that can be used in interactions between customers (citizens) and public administration.

In terms of substantive administration, there are two cardinal issues that fundamentally determine the reality of the use of AI. On the one hand, a distinction must be drawn between administrative procedures initiated ex officio and those initiated at the request of the client, since these procedures are carried out by public administrations according to different logics, both in terms of perception (see initiation of the procedure) and of clarification of the facts (see preparation of the decision). At this point, it can be concluded that in Hungary - basically in the field of financial administration - there are technologies that work for both types of procedure, but these are sector-specific solutions, all of which have a 'teething problem'.

The Hungarian State Treasury uses the Téba application¹⁰, which is an OPA-based IT framework for the automation of certain normative family support procedures that can be applied for. The main objective of the Modernisation of the Processing of Family Support Benefits (TÉBA) project was to simplify certain financial governance processes and increase

⁹ For a dogmatic foundation of the phenomenon, see. Leszczynski L., *On Theoretical Aspects of the Concept of Rational Lawmaker: Between Optimization and Idealization of the Legislation*. "Studia Iuridica Lublinensia" 2022, vol. 5. pp. 171-174.

¹⁰ <https://kifu.gov.hu/projekt/teba-csaladtamogatasi-ellatasok-folyositasanak-korszerusitese/> (31.07.2022)

the efficiency of the administrative activities involved. The development of a new, integrated IT system has created a single framework to support and electronically manage the recording of the underlying data for family support, financing, public education and social assistance, and the application, accounting and control of subsidies. The newly developed system will allow for a unified management of the subsidies paid by the Hungarian State Treasury and linked to citizens. However, a shortcoming of the programme is that the explanatory (justification) function of the application is currently underused. This is due to the procedural institution of the possibility of so-called simplified decision-making in procedures without the involvement of an opposing party, which allows the authority to omit the reasoning part of the application.¹¹ As the authority is not obliged to give reasons for these decisions (because of their favourable nature for the client), the development of the explanatory function is not a priority.

¹ The National Tax and Customs Administration uses several artificial intelligence-based programs, among which Eskort¹² is an expert system supporting VAT audits from the office, which was introduced by the tax authority in 1999. While the development has the merit of having a meaningful explanatory function, it has the disadvantage of being able to draw only one-step conclusions.¹³ However, the introduction of another application, NAV RADAR (Flexible Tax Audit Decision Support and Data Mining System), which, unlike the previous one, is relevant for ex officio tax audits, should also be mentioned. Its operation is based on the identification, on the basis of the investigation results of previously investigated cases, of the characteristics of cases which in the past were likely to have led to high tax deficits and on this basis it draws conclusions for the future. It is worth highlighting the large volume of data, in particular the wide range of data that is entered into the system and which is linked in RADAR in a tax-centred way, and the fact that the application also uses logistic regression - machine learning - for evaluation. The development was clearly aimed at increasing the efficiency of tax audits, and to this end risk analysis and efficient taxpayer selection will be carried out thanks to the application.¹⁴

¹¹ Art. 81 (2) (a) of the Ákr.

¹² <http://itf.njszt.hu/324rtr4/uploads/2019/06/APEHif.doc.pdf> p. 3 (31.07.2022)

¹³ Cf. Fejes E.– Futó I., *Mesterséges intelligencia a közigazgatásban – az érdemi ügyintézés támogatása (Artificial intelligence in public administrations - supporting substantive administration)*, “Pénzügyi Szemle (Financial Review)” 2021, vol. 1. p. 44.

¹⁴ The financial sector is a similar priority ⁵ Poland, where a number of innovative initiatives have been introduced. For more on this, see Kostrubiec J., *Preventing the Abuse of the FinTech Sector for Money Laundering and Fiscal Fraud in Terms of Polish Law: Legal Measures and Postulates of Normative Changes*. [in:] *Digital*

The other fundamental issue in relation to public authority action is the discretionary power of the public administration: in this respect, it is useful to differentiate between cases that should be decided in favour of normative regulation and those that require discretion. The former refers to the issuance of so-called legally binding acts, where the public authority can only take one type of legal decision, given the facts and the rules, and this way of applying the law can be easily modelled and thus supported by artificial intelligence.¹⁵ This is not questionable in the sense that the logical operation can be easily modelled: a one-way conclusion can be reasonably drawn and the facts and the associated decision, which alone can be considered legal, can be easily recorded in the database. It should be noted that discretion may also be exercised in this case, but this does not mean a margin of discretion within the decision, but rather a discretionary power of proof in the context of the clarification of the facts, where the authority is free to assess the means of proof offered.¹⁶

Discretion essentially refers to the attitude of applying the law, where - due to the more informal nature of the legal regime - the authority is left to its discretion to decide which of several lawful decisions to apply (e.g. determining the exact amount of the fine between the minimum and maximum values, choosing the enforcement method, etc. Generally speaking, the discretionary power can be seen as a rule-of-law solution for the more informal exercise of the public authority's law-making powers, since in this case the legislator not only grants the administrative body powers, but also defines the framework of possible lawful decisions. The problem with this is that in some cases there is a fine line between discretionary and discretionary powers, as it is equally difficult to automate the public authority's decision in the case of general legal concepts and discretionary decisions in the case of artificial intelligence.¹⁷ By its very nature, modelling this requires both a combination of machine learning and expert systems, and explicitly big data processing and data mining.

Related to this problem is the "production" of substantive decisions using artificial intelligence, which is in its infancy in Hungarian law. The reasons for this may include the lack of a horizontal perspective and the inadequacy of the infrastructure in its present state, but some

¹³ Transformation of the Financial Industry. Approaches and Applications, eds. Sladana Benković – Alexandra Labus – Miloš Milosavljević, Springer 2023. pp. 198-200.

¹⁵ An example of this is the Treasury Tēba application mentioned above.

¹⁶ For more information on the evidentiary standard, see Rozsnyai K., *A közigazgatási aktusok jogi kötöttsége (Legal binding of administrative acts)*, [in:] *Közigazgatási jog III. (Administrative Law III.)*, ed. Fazekas M., ELTE Eötvös Kiadó, Budapest 2021. pp. 120-121.

¹⁷ Ibid. p. 122.

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in the literature argue that the obligation of the public administration to give reasons for its decisions prevents automation.¹⁸ In addition to the fact that this approach is suitable for reassuring the legislator, the author of this study takes issue with this idea for two reasons: firstly, as I indicated in connection with the NAV Eskort, it is IT-soluble to develop an explanatory function, and secondly, the forms used intensively in the public administration can easily be used to digitise the justification, so there is no reason to turn away from planning further developments on this account.

ANALYSIS: A "SMALL HUNGARIAN HISTORY OF THE DEVELOPMENT" OF DIGITISATION IN PUBLIC ADMINISTRATION

In the previous sections, I have reviewed the AI-based and other technological innovations that can be applied to the basic types of public administration activities, the adaptation of which can increase the efficiency of public administration task performance, while at the same time strengthening the user-friendly attitude.

In the previous chapters of this paper I have pointed out that digitisation appears as an inevitable development path for public administration policy makers, and that it is a broader category than the application of artificial intelligence, as the digitisation of public administration (operations) has a longer history and richer achievements. In the following, I will briefly review and evaluate developments in this field.

Professor Géza Kilényi once wrote in one of his studies that the history of public administration can be identified with the history of failed reforms, which, although obviously an exaggeration, can be seen as an important reality. So the question arises: why has public administration consistently resisted the reform process and why has there been no breakthrough so far in the context of digitalisation?

The first reason is the "historical specificity that after the regime change, large state institutes and state-owned companies with significant internationally significant R&D activities in the field of science and technology have practically disappeared or have been privatised.¹⁹ Researchers were employed and generally engaged in selling products of foreign companies, so the development of expert systems, a component of artificial intelligence, virtually stopped.

¹⁸ Cf. Fejes E. – Futó I., p. 44.

¹⁹ MTA SZTAKI is a refreshing exception to this trend.

At the same time, it seems appropriate to point out two historical facts for the sake of authenticity. On the one hand, it should be stressed that the priority of public administration development after 1990 was to meet the requirements of the rule of law and democracy, rather than to put it on a digital footing; on the other hand, in those sectors where IT development did take place (more so in the mid- to late 1990s), it was isolated, sector-specific and general platforms were still to be developed.

On the other hand, it should also be stressed that the lack of credible "champions" was (and in some respects still is) one of the reasons for the digital explosion. Erzsébet Fejes and Iván Futó, in the work cited above, refer to the phenomenon whereby the first initiative to implement a knowledge-based application usually comes from a vendor. "If the bidder is a large multinational company, it has a number of references in the field. The real question, however, is who needs to be convinced of the usefulness of the future application? The potential vendor needs to find an in-house 'champion' who understands - perhaps already knows - the essential operational elements of the proposed solution, who is a sufficiently credible person and who is willing to stand behind the project, even 'campaign' for it."²⁰ Although the quotation suggests that this approach is more suited to the logic of the competitive sector, it has not, by definition, achieved breakthroughs in the public sector (and, given the procurement nature of public procurement, can be a breeding ground for corruption), and so there has long been understandable resistance to technological innovation and its management within public administrations and their staff. In the context of attempts at digitisation in the public administration, I will look at the (instructive) institutionalisation of two legal instruments: electronic administration and the introduction of an electronic civil registry system.

The electronic civil status system was institutionalised by Act I of 2010 on civil status procedure, which, according to the original plans, was to enter into force at the beginning of January 2011. The sequel is known to all: the legislator "postponed" the entry into force first by one, then by two, and finally by three and a half calendar years, so that the legislation finally became applicable from 1 July 2014. For the purposes of this work, I will not go into the initial difficulties encountered in the early days, but the circumstances that led to the delayed entry into force are certainly worth mentioning. There were two main reasons for the delay in entry into force. The first was the institutionalisation of registered partnerships, where there was no consensus between the concept of the law's proposer and that of the government in power at the

²⁰ Cf. Fejes E. – Futó I., p. 44.

time of its entry into force, and this (political) conflict also hindered the final text of the law.²¹

Simplifying what happened, there were first of all constitutional concerns about the introduction of registered partnerships, which were technical on the surface and political below the surface. The professional argument was based on the expediency and constitutionality of institutionalising registered partnerships as a quasi alternative to marriage (the first constitutional court decisions also addressed this question), but in fact it was the liberal/conservative approach to conservative family law legislation that decided the fate of the issue for a few years. This is related to our topic from the point of view that the new law introduced (in addition to the birth, marriage and death registers) the so-called fourth civil register, a fact that did not help it to come into force at the initial date.

The other reason for the "delay" is the lack of infrastructure: the electronic civil status system (and the security document registry as part of it) was simply not built (forming a reliable system) by the deadline indicated, so the legislation was not ready to enter into force due to the lack of material conditions.²²

The introduction of electronic administration (?) was not any smoother, but here the gap between the legislative 'shall' and the 'sein' that is actually realised was even more pronounced. The first ambitious legislative attempt was Act CXL of 2004 on the General Rules of Administrative Procedure and Services (hereinafter: Ket.), which made provision for electronic administration in a separate title. Apart from the fact that the law (also) contained a lot of technical rules in this chapter, which led its critics to regard it as a "manual for administrators", it soon became apparent that the chapter introduced simply cannot work. To avoid giving a legal-historical aspect to this work, I shall illustrate the above by illustrating some of the original, difficult-to-enforce provisions of the Act:

- "Unless otherwise provided by law, government decree or local government decree, the authority shall also conduct administrative administrative matters by electronic means."
[§ 160 (1) of the Act]
- "Where the public authority provides the possibility to use electronic administrative administration or services not only through the central system, it shall also provide

²¹ The story began earlier: the first time the legal institution was dealt with was in AB 154/2008 (17.12.2008), but its satisfactory legal settlement was an obstacle to the finalisation of the Civil Status Act.

²² It is worth noting that, in addition to the delay, this has further preserved an unconstitutional situation in which the subject matter was still regulated by decree-law and by decree of the Minister of the Interior until 2014, despite the fact that it was an exclusive legislative subject matter, which the Constitutional Court had already drawn the attention of the legislator to in 1990 in its decision No.32/1990 (XII.22.) AB.

information on its own information platform about the services available on the central system and the possibility to use them." [Ket. § 160 (11))

- "The authority may communicate by electronic mail only with the customer who has provided the authority with his electronic mail address for this purpose, for the validity of which the customer is responsible." [Ket. § 162 (5)]
- "In the event of a temporary failure of the information technology system under the control of the public authority in the course of the ongoing electronic communication between the public authority and the customer, the public authority shall inform the customer of the fact of the failure by electronic mail, indicating the start and end time of the failure, within twenty-four hours after the failure has been rectified" [Ket. 163 (1) a)]

In comparison, the first fine-tuning took place with the entry into force of the amendment to the Code of Laws (i.e. Act CXI of 2008): at that time, the legislator recognised that the previously declared state of digitisation of administration was more of an objective than a reality, so the procedural code only spoke of electronic information and electronic communication, and the technical provisions were transferred to Act LX of 2009 on electronic public services.

The final refinement was the amendment that only included in the principles the right of the customer to choose freely the means of communication with the public authority and only the mandatory electronic channel for communication between public authorities. This is essentially the model of today's legislation, according to which the provisions at the level of principles are laid down in Act CL of 2016 on the General Administrative Procedure, while the technical and other detailed rules are laid down in Act CCXXII of 2015 on the General Rules for Electronic Administration and Trust Services (Eüsztv.).

DISCUSSION: CHALLENGES AND RESPONSES IN THE RELATIONSHIP BETWEEN PUBLIC ADMINISTRATIONS AND ARTIFICIAL INTELLIGENCE

IT solutions (also) used in AI-based public administrations have shown varying degrees of effectiveness in different developed countries. Looking at examples from abroad, it can be highlighted that both machine learning and the use of expert systems are not alien at international level, with the Anglo-Saxon countries in particular leading the way in this field.

²³. In addition to the need to keep up with technological advances, it is also evident that the challenges of recent years (e.g. pandemics, war, restrictions on fundamental rights, etc.) have forced public administrations to proactively exploit these existing infrastructures. An example of this in the Hungarian documentary administration is the effort to reinforce the so-called customer call kiosks in the district offices with artificial intelligence, which will - at least according to plans - in the near future enable the online initiation and issuance of documents of a decision nature (e.g. identity card, proof of address, driving licence, passport, etc.) without the involvement of human beings. The development is based on the recognition that artificial intelligence can automate routine administrative tasks, allowing public administrators to focus on complex, strategic activities. Document management certainly falls into this category, as a large number of cases require the routine issuance of documents under prescriptive regulation, an area where improvements can simplify processes, reduce bureaucratic burdens and improve administrative efficiency.

The other aspiration that pervades the domestic related legislation is to use artificial intelligence as (one of) the means to shorten the administrative time. To illustrate this, one can cite the automatic decision making institutionalised by the former Administrative Procedure Act and further developed by the current CL Act of 2016. The basic idea is that a decision is taken or communicated within 24 hours of the initiation of the procedure, provided that the facts are clear and the necessary information is available to the authority.²⁴ The scope of this study does not allow for a comprehensive evaluation of the legal instrument, so I would just like to add that - according to the conceptual coordinate system of the GDPR regulation - this cannot be considered as a real automated decision, since under the current regulation, the human factor is required to intervene approvingly to reach the actual decision.²⁵ Accordingly, the legal instrument cannot be considered as a pure application of artificial intelligence, even though the

²³ Machine learning is the basis of the OPSI and BIT technologies, among others, which have been in existence since 2017, while examples of successful use of expert systems can be found in the UK (ESI), Australia (IVAG), New Zealand (CSLC) and the US (e-HASP2).

²⁴ It should be noted that the sectoral legislation was originally modelled on ex officio procedures for certain traffic offences, but was later extended to procedures on request and to other sectors (e.g. certain family allowances, the issue of an inauthentic title, etc.).

²⁵ For more on this issue, see. Wachter S.– Mittelstadt B.– Russell C., *COUNTERFACTUAL EXPLANATIONS WITHOUT OPENING THE BLACK BOX: AUTOMATED DECISIONS AND THE GDPR*, “Harvard Journal of Law & Technology” 2018, vol. 31 (2), pp. 461-464. <https://jolt.law.harvard.edu/assets/articlePDFs/v31/Counterfactual-Explanations-without-Opening-the-Black-Box-Sandra-Wachter-et-al.pdf> (31/07/2022).

1 nature of the relevant law enforcement activity (i.e. the issuance of a legally binding act) would allow for the application of full automatism.²⁶

Finally, I would like to point out that, in addition to the classic public authority activities, there is also the possibility of using AI in the context of public service organisation (once the guarantee framework is in place). Examples of possible sectors include the organisation of public transport (which could be based on the operating mechanisms of Uber's existing platform) and the linking of so-called basic registers with administrative planning (e.g. birth registers could be used to draw automated conclusions from the number of children born in a municipality in order to plan the number of places in nurseries and kindergartens).

CLOSING REMARKS

1 In conclusion, I will limit myself to saying that the benefits of digitalisation of public administration (in this context, the use of artificial intelligence) in terms of increasing efficiency or reducing administrative costs are beyond dispute, but it should also be emphasised that the decentralisation of tasks and competences has not resulted in the decentralisation of the administrative location to the citizens. 1 On the contrary, the digitalisation of public administration has reinforced the principle of centralisation, so that the cautious rise of AI in Hungary can be identified for the time being with the process of centralisation.

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²⁶ For a more detailed discussion, see Hoffman I. – Bencsik A., *New Ways of Providing Public Services: Platforms of Service Provision and the Role of Artificial Intelligence: In the Light of the Development of the Hungarian Public Administration*. [in:] *Digital Transformation of the Financial Industry. Approaches and Applications*, eds. Sladana Benković – Alexandra Labus – Miloš Milosavljević, Springer 2023. p. 181.

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