

The Impact of Artificial Intelligence on Public Services in Romania

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ABSTRACT

Artificial intelligence (AI) poses a challenge to the adaptability of every entity in the face of rapid evolution across social, cultural, economic, legal, and other domains. Programmed to evolve faster than human beings, this technology offers advantages across various branches and fields of activity, but it also introduces a series of risks. While these risks are anticipated, their verification can only occur after AI implementation. This study examines the European and national legal framework related to artificial intelligence, the benefits and drawbacks of AI usage in Romanian public services, as well as the adaptability of this technology within those services. It also explores AI-based programs used in public administration and their impact on citizens. This work serves as a starting point for further analysis in this domain.

KEYWORDS: *artificial intelligence, public services, adaptability, social impact.*

1. Introduction

Technology has been programmed to learn autonomously and acquire intelligence. In the year 2023, artificial intelligence is a reality and, in certain contexts, even a necessity. From digital assistants (such as Siri, Alexa, and Cortana) to autonomous vehicles, robots, smart cameras with facial recognition, personalized advertisements, profiling, and predictions about future behaviors, Artificial Intelligence (AI) fundamentally influences our lives, choices, and behaviors in a subtle, imperceptible, and often opaque manner¹.

Although AI has been present in our activities and lives for over 50 years, it has received diverse definitions adapted to the specific domains in which it is used. The widely accepted definition, particularly in the field of computer science, considers AI as the intelligence exhibited by machines, distinct from the natural intelligence of humans and animals. Research in the field of AI focuses on studying intelligent agents²: any device that perceives its environment and takes actions to successfully achieve its objectives. More precisely, Kaplan and Haenlein³ define AI as the “ability of a system to correctly interpret external data, learn from such data, and use what it has learned to achieve specific objectives and tasks through flexible adaptation.”

In simpler terms, AI involves the development of algorithms and models that enable machines to perceive their environment, motivate their actions, and achieve specific goals. These

¹ <https://www.wolterskluwer.com/ro-ro/events/inteligenta-artificiala-in-ue>, accessed on 10.03.2024.

² Poole, Mackworth & Goebel 1998, p. 1. ; S. J. Russell Peter Norvig Peter Norvig, , Artificial Intelligence, A Modern Approach. Second Edition, 2003, Publisher: University of Michigan Press, p. 55).

³ Kaplan Andreas; Michael Haenlein (2018) Siri, Siri in my Hand, who's the Fairest in the Land? On the Interpretations, Illustrations and Implications of Artificial Intelligence, Business Horizons, p. 62.



algorithms rely on large volumes of data and employ advanced techniques such as machine learning, deep learning, natural language processing, and computer vision. As machines become increasingly capable, tasks previously considered to require “intelligence” are often removed from the definition of AI, a phenomenon known as the “AI effect.” For example, optical character recognition (OCR) is often excluded from the field of AI, as it has become a routine technology.

Typically, modern capabilities of machines classified broadly as AI include: Understanding and mimicking human speech: Machines can interpret and generate natural language, communicating with users in a human-like manner; Strategizing for different contexts and requests: AI can make decisions based on data and context, adapting to various situations; Providing autonomy to devices: Machines can make decisions without human intervention, such as autonomous vehicles or robots; Intelligent content routing: AI can personalize content for users, offering relevant information; Various simulations: AI can simulate diverse scenarios, from climate models to traffic simulations.

All of these capabilities are tailored to specific domains of intervention and AI usage, contributing to improved efficiency and user experience.

2. The legal basis for the use of AI

Analyzing the evolution of AI in recent years, the co-legislators of the European Union assessed the need to establish a legal framework for the regulation of AI regarding the encouragement of innovation in Europe, but also the limitation of possible abuses of advanced and extremely advanced technologies, such as, among those identified, the danger of manipulation public opinion or increasing transparency about the algorithms and gigantic databases that underlie these systems.

In this context, the European Union is preparing⁴ a legal framework for AI, regarding the safety of products and the accountability of companies; rules imposed on systems considered "high risk" used in sensitive areas⁵: ensuring human control over the machine; drawing up a technical documentation and establishing a risk management system; special surveillance of artificial intelligence systems that interact with humans, in the sense of informing users that they are interacting with a machine.

Regarding the use of AI in public administration, several notable steps have been taken at the EU level:

1. EU AI Law⁶: In April 2021, the European Commission proposed the first EU regulatory framework for AI, and on March 13, 2024, the European Parliament adopted the Artificial Intelligence Law, with 523 votes in favor, 46 against and 49 abstentions. The legislation would enter into force 20 days after publication in the Official Journal and with applicability from 2026 - 24 months after entry into force. Exceptions to this term are provided for the regulations

⁴ Situation analyzed in December 2023.

⁵ The following areas are considered sensitive, in the EU's view on AI: critical infrastructure, education, human resources, law enforcement.

⁶<https://www.euronews.ro/articole/legea-privind-inteligenta-artificiala-in-ce-situatii-este-interzisa-utilizarea-ia>, accessed on 16.03.2024.

contained in the law regarding the rules on AI systems for general use, including governance - 12 months from the date of entry into force.

2. The European Office for Artificial Intelligence (AI): represents the center of expertise in the field of AI throughout the European Union. It will contribute to the implementation of European AI law, with a particular focus on AI for general use, including in the public sector.

3. GenAI4EU⁷: represents a series of innovation measures for the development of AI applicable in 14 European industrial fields, including the public sector, launched by the Commission in January 2024.

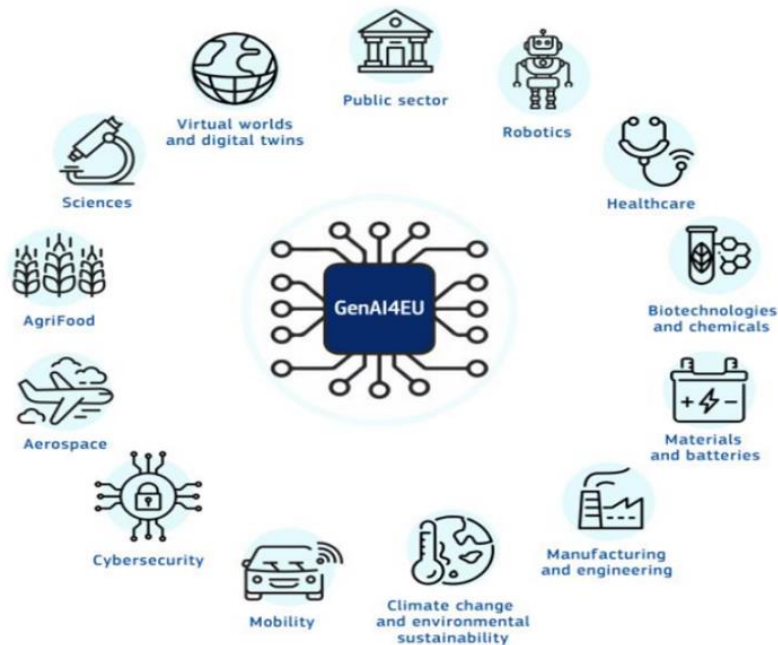


Figure 1⁸: The areas of applicability of the GenAI4EU initiative

All these initiatives aim to ensure a balance between innovation, the protection of fundamental rights and the safety of citizens in the use of AI in public administration.

In Romania, Artificial Intelligence is increasingly used, Romanians trust what AI means and know this notion well.

⁷ <https://digital-strategy.ec.europa.eu/en/policies/ai-office>, accessed on 16.03.2024.

⁸ Retrieved from address <https://digital-strategy.ec.europa.eu/en/policies/ai-office>, accessed on 16.03.2024.

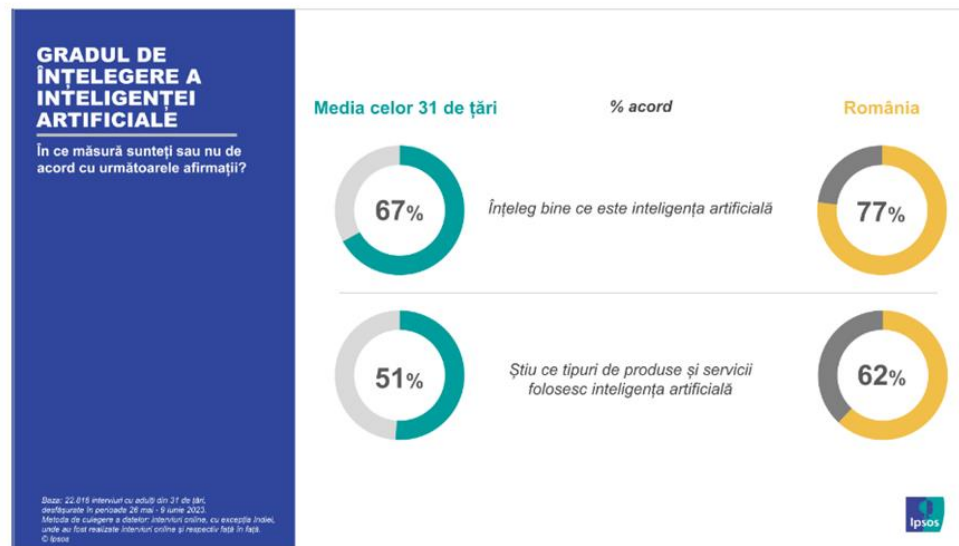


Figure 2⁹: Level of understanding of AI

From a legislative and institutional point of view too, steps have been taken to regulate AI in Romania. So:

1. National Strategy for Artificial Intelligence (AI) - By the Decision of the Superior Council of Defense of the Country¹⁰, the Interinstitutional Commission was established for the elaboration of Romania's National Strategy for Artificial Intelligence. This aims to develop and promote the use of AI in various fields, including the provision of public services

On January 31, 2024, the Draft Government Decision, the Background Note, the National AI Strategy and Annex 2 regarding the approval of the National Strategy in the field of Artificial Intelligence¹¹ were released for public consultation for 10 days. At this moment¹², we have not yet adopted a normative act, but we can summarize the provisions of the strategy as being based both on the European concepts regarding AI, but also on the current Romanian context and on the fields related to AI: research and development, innovation, competitiveness of the economy, education, digitalization of administration and society.

2. The programmatic document entitled "National strategic framework in the field of artificial intelligence"¹³ (CSN-IA) - this document was created within the project "Strategic framework for the adoption and use of innovative technologies in public administration 2021 -

⁹ Retrieved from address <https://www.ipsos.com/ro-ro/romanii-si-inteligenta-artificiala-intre-ignoranta-si-fascinatie>, accessed on 11.03.2024

¹⁰ Hotărârea Consiliului Superior de Apărare a Țării nr. 148/27.09.2022

¹¹ The documents can be consulted at this address <https://www.mcid.gov.ro/transparența-decizională-2/>, accessed on 16.03.2024

¹² 16.03.2024

¹³ The documents can be consulted at this address https://www.mcid.gov.ro/wp-content/uploads/2024/02/Strategie-Inteligenta-Artificiala-22012024_clean_final.pdf, accessed on 15.03.2024

2027". This represents the foundation on which Romania's National Strategy in the field of AI will be articulated. CSN-IA highlights the impact that AI technologies can have in the field of public services in Romania: medical assistance, safe transport, improvement of working conditions, development of digital skills of employees in the public sector and companies, participation in national and European funding projects (by using digital platforms for crowdfunding)¹⁴, improving logistics and computing infrastructure, increased access to knowledge and information

3. A series of debates and workshops in the domain of AI were carried out at the central decision-making level by the Authority for the Digitization of Romania. Themes such as "The regulatory framework regarding artificial intelligence, data governance and open data" correlated two current directions of European and national interest, regarding the use of data available from the public sector for the creation of innovative products, solutions and services.

3. The advantages of using AI at the level of public services in Romania

E-Governance is the vision of achieving public administration activity based on AI and has a significant influence on extensive fields and has implications in the social, political and economic spheres. This radically transforms the way citizens interact with central or local public authorities. Among the advantages of electronic government, mentioned in the National Electronic System portal, are: improving access to information and public services offered by central public administration authorities; eliminating bureaucratic procedures and simplifying work methodologies; improving the exchange of information and services between central public administration authorities; increasing the quality of public services at the level of the central public administration.

In turn, e-Governance is based on advanced AI technologies. Thus, through AI applications in public administration, E-Government of maximum quality and efficiency can be achieved for citizens. The most frequently performed tasks in public administration that can be achieved with the use of AI could be considered¹⁵:

- Resource allocation: AI can help complete tasks quickly and make resource use more efficient.
 - Analysis of large data sets: AI can process large volumes of data, providing better insight into problems.
 - Filling the lack of experts: AI can help in situations where human experts are insufficient.
 - Scenarios based on historical data: AI can predict the future based on past data.
 - Automate repetitive tasks: AI can take over monotonous tasks.
 - Handling diverse data: AI can synthesize information from visual and linguistic sources
- Some examples of the use of AI in public administration in Romania:

¹⁴ Staiculescu O., Empowering Romanian Entrepreneurs to Develop Social Business, Conference Proceedings Citation Index- Social Science & Humanities (CPCI-SSH) / "9th International Scientific Conference on Knowledge Based Sustainable Development – ERAZ 2023", pp. 129-138, 2023, <https://doi.org/10.31410/ERAZ.2023.129>.

¹⁵ Inteligența artificială în administrație publică. Exemple și beneficii (cursdeguvernare.ro), accessed on 12.03.2024.

- Automated payments: Processing unemployment, death or birth benefits, as well as pensions, without the intervention of citizens.
 - Social security services: Automatic provision of social security services.
 - Management of calls to 112: Classification of calls according to the degree of urgency
 - Preventing the spread of diseases: Detection and monitoring of diseases.
 - Assistance to civil servants: Help in making social payments
- Some benefits of using AI in public services:
- in Healthcare: More accurate diagnosis and personalized treatments.
 - in Safe Transport: Traffic monitoring and route optimization.
 - in Developing digital skills: Training and adaptation to new technologies.
 - in Participation in funding projects: Access to knowledge and computing infrastructure

4. Some disadvantages of using AI in public services in Romania

The use of artificial intelligence in public services brings with it both advantages and disadvantages that must be considered:

1. Dependence on technology: An excessive migration to AI-based systems can make public administration vulnerable to technical failures or cyber-attacks.
2. Lack of transparency and explainability: AI models can be complex and hard to understand. Lack of transparency can lead to mistrust on the part of citizens.
3. Bias and discrimination: AI models can perpetuate bias and discrimination if they are not trained properly or if the training data is biased. For example, a facial recognition system may be inaccurate in identifying black people or women.
4. Data privacy: The use of AI involves the collection and processing of large amounts of personal data. Protecting the confidentiality of this data is essential.
5. Costs and resources: Implementing and maintaining AI systems requires significant investments of time, money and human resources.
6. Impact on jobs: Automation through AI can lead to the reduction of some jobs, especially in repetitive tasks.
7. Error and responsibility: AI systems can make mistakes and establishing responsibility can be difficult.

Despite these drawbacks, the responsible and ethical use of AI can bring about significant improvements in public services if properly managed¹⁶.

5. The adaptability of AI in various fields of public services in Romania

How to combine AI, a notion which, although it is young, of a maximum of 50 years worldwide, has experienced and continues to experience rapid expansion in recent years, including

¹⁶ Digitalizarea serviciilor publice în România: rezultate, obiective și soluții concrete - NOD Academy, accessed on 12.03.2024.

in Romania, with the notion of public service, a notion which, in its modern version, has more than a century of use?

As technology was programmed to constantly learn and become intelligent, it managed to recover the gap of years of using public services and today it proves its adaptability in working with them, most of the time to the advantage of the citizen, the purpose of public services being the satisfaction of interests and citizens' needs¹⁷.

In the medical field we know the greatest adaptability and the greatest evolution, to the advantage of patients. AI can be used for diagnosis, personalization of treatments and optimization of medical data management.

In the field of transport, AI can contribute to the optimization of routes, traffic management and the development of intelligent public transport.

The use of AI in education can lead to personalization of learning and access to educational resources. During the Covid 19 pandemic, I experienced online education technology and effective applications for knowledge transfer and skills training verification.

AI can make electricity distribution, water and sewer management, and urban planning more efficient.

AI can detect threats and protect the country's digital infrastructure, bringing a boost to cyber security.

And in public administration, the automation of administrative tasks, data analysis and the improvement of services offered to citizens proved to be an advantage offered to the population¹⁸.

AI can take over repetitive and manual tasks, freeing up employees' time for more valuable activities. Some examples of automation:

- Document processing: AI can extract information from invoices, forms or other documents.
- Request management: Automating responses to citizen requests.
- Human resource planning: Scheduling appointments and managing leave.
- Receiving benefits: AI can process claims for unemployment, death or birth, as well as pensions, almost immediately, without requiring manual intervention by officials.
- Provision of social security services: AI can manage and classify claims and payments automatically.
- Classification of calls to 112: AI can help assess the degree of urgency of emergency calls.
- Detecting and preventing the spread of disease: AI can analyze epidemiological data and contribute to public health management.

AI can process and analyze large volumes of data, providing valuable results: performance monitoring: AI can assess the efficiency of services and identify areas for improvement; fraud prevention: detecting fraudulent schemes in financial or welfare data; audience segmentation: data analysis to personalize communication with citizens; improving the services offered to citizens: AI can contribute to providing quick answers with the help of Chatbots and virtual assistants that

¹⁷ Enătescu AM, Enătescu MA, Calitate. Terminologie comentată, Ed. Tehnică, București, 2000, p. 181; Balta I, Robu T., Cerințe privind calitatea serviciilor publice, Fundația pentru o Societate Deschisă, București, 1999, p.17.

¹⁸ For more achievements in the field of digitization of the public sector and public services, see "Pași spre digitalizarea sectorului public", Voinea R în "Administrație și justiție socială, echitate, incluziune, legalitate", 2023, București, p.270.

can provide information instantly, can personalize services by adapting offers to the individual needs of citizens, can optimize routes and infrastructure by improving public transport, managing water and energy resources.

AI provides assistance to citizens and interaction with Government through virtual assistants: AI can be used to quickly answer citizens' questions and guide users to the right resources, help by automating social payments: AI can help civil servants make payments and manage the files.

The use of artificial intelligence in public administration brings many benefits, including increased efficiency and cost savings. These initiatives represent an important step towards modernizing and improving the services offered to citizens.

6. Some AI-based programs used in public administration in Romania

The digitization process of public services in Romania has seen a significant acceleration in the last two years. This digital transformation was influenced both by the health crisis, which imposed physical restrictions and the migration of interactions with citizens to the online environment, and by the constant digitization efforts at the level of central and local public administration.

In the Romanian public administration, several programs based on artificial intelligence have been implemented to improve the services offered to citizens and their efficiency, in the sense of making them optimal, using the available resources in a rational way.

1. The EGOV project: It is a project implemented by ADR (Authority for the Digitization of Romania) in partnership with the General Secretariat of the Government, through which a Public Policy in the field of e-government was provided. This is a roadmap for the digital transformation of the administration for the next 10 years. The goal is to reduce bureaucracy and modernize public institutions. The digital transformation process configured through EGOV involves a financing of 2.4 billion euros, fully covered by European funds¹⁹.

2. The Interministerial Committee for E-Government and Debureaucratization: This committee was established immediately after the completion of the EGOV project, and has the role of coordinating digitization efforts at the Executive level.

3. Catalog of Public Services: ADR and SGG²⁰ are working on the creation of this catalog, which will list all public services offered by the Romanian state. This will be the basis for a complete architecture and a correct vision of the digitization of public administration. To date, more than 2,500 public services from different and multiple fields are included in this catalog.

4. Centralized Software Platform for Digital Identification (PSCID): This platform will be the gateway and the first point of securing e-government services. Citizens will be able to use a unique electronic identity and a single set of credentials to access public services quickly and securely²¹.

¹⁹ ADR_Raportul_Digitalizarii_Q2_2021.pdf (gov.ro), 16.03.2024

²⁰ ADR - Autoritatea pentru Digitalizarea României ; SGG – Secretariatul General al Guvernului

²¹ ADR_Raportul_Digitalizarii_Q2_2021.pdf (gov.ro), 16.03.2024



5. Various programs and systems are used in the Romanian public administration records service for managing personal data and documents, such as: National Register of Persons - R.N.E.P. represents the set of personal data of Romanian citizens, resulting from automatic processing, in a unitary concept, for the purpose of knowing the number, structure and movement of the population on the territory of the country and the National Informatics System for Records of Persons - S.N.I.E.P. is the IT infrastructure that allows the management and updating of R.N.E.P. data.

6. other programs²²:

- Ghiseul.ro: Online platform that allows citizens to access and manage public services. Almost 1.3 million active users use this platform¹.

- SEAP (Electronic Public Procurement System): More than 200,000 entities are registered on this platform for public tenders¹.

- e-guvernare.ro: Approximately 8,300 public institutions are present on this platform, through which taxpayers can submit their ANAF1 declarations.

- Electronic Single Contact Point: Provides access to 5,300 procedures and formalities for central and local administration services

- aici.gov.ro: Documents addressed to public institutions that do not have their own online registration system can be submitted here. More than 1.8 million requests were submitted through this intermediate mechanism.

- SIAE (Electronic Allocation Information System in Transport): Issued more than 1.7 million transport authorizations.

Although progress is significant, Romania is still in last place in the EU in terms of digital public services. However, continuous efforts and Smart Governance projects initiated at the local level contribute to improving the situation.

7. The impact of AI used in public administration on Romanian citizens

The use of modern and continuously evolving technologies, as well as the digitization process of public services in Romania, have had a significant impact on citizens and the way they interact with the administration, in the following areas of their lives:

1. Improved accessibility: AI technology has enabled citizens to access public services online, eliminating the need to physically travel to counters. Through digital platforms, citizens can submit documents, pay taxes and access information in a faster and more efficient way.

2. Efficiency and speed: Digitization has reduced the time required to process applications and administrative formalities. Citizens can quickly get answers and solutions to their problems.

3. Transparency and ease of access to information: Digital databases allow citizens to access information about public services, their rights and obligations. At the same time, they can check the status of applications and receive notifications in real time.

²² Digitalizarea serviciilor publice în România: rezultate, obiective și soluții concrete - NOD Academy, 16.03.2024.

4. Reduction of red tape: Digitization has simplified administrative procedures, eliminating unnecessary paperwork and formalities. Citizens can fill out forms online and receive digital documents.

5. Performance monitoring and evaluation: AI technology enables administration to collect and analyze data on public services. Thus, problems can be identified and measures can be taken to improve the quality of services.

6. Citizen participation: Digital platforms give citizens the opportunity to express their views and participate in the decision-making process. Through online surveys and public consultations, citizens can influence the administration's policies and projects.

In conclusion, AI technology has brought a number of benefits to citizens, improving access to public services, efficiency and transparency in administration. However, there are still challenges and room for improvement, and continued efforts are essential to ensure a modern and efficient public administration²³.

REFERENCES:

1. Dinca, D., 2018, *Servicii publice*, Editura Economică, https://www.academia.edu/38816718/Serviciile_publice.
2. Enătescu, AM, 1999, *Calitate. Terminologie comentată*, Ed. Tehnică, București, 2000, p. 181.
3. Balta I, Robu T., *Cerințe privind calitatea serviciilor publice*, Fundația pentru o Societate Deschisă, București.
4. Kaplan Andreas; Michael Haenlein, 2018, *Siri, Siri in my Hand, who's the Fairest in the Land? On the Interpretations, Illustrations and Implications of Artificial Intelligence*, Business Horizons.
5. Iordache, I., 2021, *Inteligența artificială în securitatea fizică*, <https://ioniordache.com/wp-content/uploads/2021/08/IA.pdf>.
6. Poole, M. Goebel, 1998, p. 1; Russell, SJ., Norvig, P., 2003, *Artificial Intelligence, A Modern Approach*, Second Edition, Publisher: University of Michigan Press, p. 55.
7. Sfetcu, N., 2023, *Inteligența artificială, o provocare esențială*, IT & C, 2:1, 3-6, DOI:10.58679/IT30677, <https://www.internetmobile.ro/inteligența-artificială-o-provocare-esențială>.
8. Staiculescu, O., *Empowering Romanian Entrepreneurs to Develop Social Business*, Conference Proceedings Citation Index- Social Science & Humanities (CPCI-SSH) / "9th International Scientific Conference on Knowledge Based Sustainable Development – ERAZ 2023", p. 129-138, 2023, <https://doi.org/10.31410/ERAZ.2023.129>.
9. Ștefanovici A., 2020, *Romania's evolution towards reducing the bureaucracy and simplifying the citizen's relationship with the state*, Available at:

²³ Digitalizarea serviciilor publice în România: rezultate, obiective și soluții concrete - NOD Academy, accesat la 16 martie 2024.



- <https://bdattorneys.ro/en/media/romanas-evolution-towards-reducing-the-bureaucracy-and-simplifying-the-citizens-relationship-with-the-state/>.
10. Voinea R.C., 2023, *Steps towards digitization of the public sector*, Administrație și justiție socială: echitate, incluziune, legalitate. p. 270-288. Ed. Bălan E., Văcărelu M., Varia G., Editura Universitară, București, 2023. DOI: 10.5682/9786062817381. ISBN: 978-606-28-1738-1.
 11. <https://www.wolterskluwer.com/ro-ro/events/inteligenta-artificiala-in-ue>.
 12. <https://www.euronews.ro/articole/legea-privind-inteligenta-artificiala-in-ce-situatii-este-interzisa-utilizarea-ia>.
 13. <https://digital-strategy.ec.europa.eu/en/policies/ai-office>.
 14. <https://www.ipsos.com/ro-ro/romanii-si-inteligenta-artificiala-intre-ignoranta-si-fascinatie>.
 15. <https://www.mcid.gov.ro/transparenta-decizionala-2/>.
 16. Inteligența artificială în administrație publică. Exemple și beneficii (cursdeguvernare.ro).
 17. Digitalizarea serviciilor publice în România: rezultate, obiective și soluții concrete - NOD Academy, accesată la data 16.03.2024.
 18. ADR_Raportul_Digitalizarii_Q2_2021.pdf (gov.ro).
 19. Hotărârea Consiliului Superior de Apărare a Țării nr. 148/27.09.2022.

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