ARTIFICIAL INTELLIGENCE IN PUBLIC ADMINISTRATION: OPPORTUNITIES AND CHALLENGES IN THE HUNGARIAN CONTEXT

Éva Sarolta BIHARI
Administrative Officer, Government Office of the Capital City Budapest
Corresponding address: eva.bihari9@gmail.com
ORCID: 0009-0000-0723-7199

DOI: 10.47272/KIKPhD.2025.2.4

ABSTRACT

This study explores the transformative role of artificial intelligence in public administration, with particular regard to Hungarian conditions. While AI offers efficiency, transparency, and improved citizen engagement, challenges arise from digital inequality, infrastructural disparities, and data protection concerns. The analysis stresses that AI should supplement rather than replace human judgment, requiring ethical, transparent, and citizen-centred implementation tailored to Hungary's specific context.

KEYWORDS

Artificial intelligence, Public administration, Data protection.

ARTICLE HISTORY

SUBMITTED 20 Jun 2025 | REVISED 10 July 2025 | ACCEPTED 30 July 2025

I. Introduction

The expansion of information technology has profoundly reshaped the functioning of public administration. Whereas administrative procedures once relied predominantly on face-to-face interaction and paper-based documentation, the spread of digital solutions has enabled the introduction of electronic registries, networked communication, and automated procedures. Information technology has thus become more than a mere technical tool; it represents a driving force of structural transformation, affecting everything from citizen–government interactions to the internal organization of administrative bodies.[1] Digitalized public administration is increasingly moving towards the model of the "service-oriented state," where simplicity, efficiency, and transparency are paramount. Contemporary administrative systems are no longer determined solely by legal regulation, but are also shaped by data science, user experience design, and system integration. Achieving these goals requires continuous investment in digital infrastructure, the establishment of interoperability across registries and platforms, and the consistent enforcement of data protection and cybersecurity standards.[2]

IT-based solutions now provide opportunities for advanced decision support, as well as for the application of artificial intelligence and Big Data technologies,[3] enabling public institutions to respond more rapidly and accurately to societal and economic changes. In this context, intelligent client-facing systems such as e-government portals, chatbots, and online appointment platforms have emerged.[4] These tools not only enhance citizen satisfaction, but also alleviate the administrative burden on civil servants, allowing them to devote more attention to complex tasks that require human judgment. Technological change is occurring both horizontally and vertically: information systems are being embedded across all levels of public administration, from ministries to local municipalities. As a result, digital literacy and IT competence have become essential requirements in the civil service, as they are indispensable to the effective and modern operation of administrative bodies.[5] It is equally important to note that technological progress is

[1] Seok-Jin Eom and Jooho Lee, 'Digital Government Transformation in Turbulent Times: Responses, Challenges, and Future Direction' (2022) 39 *Government Information Quarterly* 101690 https://doi.org/10.1016/j.giq.2022.101690

[2] Karen Yeung, 'The New Public Analytics as an Emerging Paradigm in Public Sector Administration' (2023) 27(2) *Tilburg Law Review* 1–10 https://doi.org/10.5334/tilr.303

[3] Helen Margetts, Cosmina Dorobantu and Jonathan Bright, 'How to Build Progressive Public Services with Data Science and Artificial Intelligence' (2024) 95(4) *The Political Quarterly* 653–662 https://doi.org/10.1111/1467-923X.13448

[4] Zeynep Engin, Jon Crowcroft, David J Hand és Philip Treleaven, 'The Algorithmic State Architecture (ASA): An Integrated Framework for AI-Enabled Government' (2025) *arXiv* preprint arXiv:2503.08725 https://doi.org/10.48550/arXiv.2503.08725

[5] Balázs Benjámin Budai, Gábor Bozsó, Sándor Csuhai and István Tózsa, 'Digital literacy and the capability to manage e-government in today's Hungary' (2024) 14(6) *Regional Statistics* 1–27 https://doi.org/10.15196/RS140608

transforming the very nature of the relationship between public authorities and citizens. Communication is increasingly real-time and interactive: through social media, open data initiatives, and online complaint platforms, citizens are no longer passive recipients of administrative services but are becoming active participants in the shaping of public processes.[6]

In light of these developments, this study investigates the opportunities and risks of integrating artificial intelligence into public administration, with particular attention to Hungarian circumstances. The analysis highlights how AI can enhance efficiency, transparency, and citizen engagement, while also exposing challenges such as digital inequality, infrastructural disparities, and data protection concerns. It argues that AI should serve as a supplementary tool rather than a replacement for human judgment, and that its successful application requires ethically sound, transparent, and citizen-centred implementation adapted to the Hungarian context.

II. The Challenges of Administrative Digitalisation

The development of electronic government undoubtedly brings a wide range of benefits, such as faster case management, greater transparency,[7] and improved cost-efficiency. Nevertheless, digitalisation is not without its drawbacks, which manifest at legal, technological, social, and organisational levels. From the perspective of this study, it is essential to review the most pressing challenges, as these constitute the environment into which artificial intelligence applications must be introduced.

1. Digital inequality

Digital inequality refers to the uneven access of individuals, communities, or regions to AI-based technologies and digital public services.[8] The central concern is that certain social groups—particularly the elderly, those with lower educational attainment, or those who are otherwise digitally disadvantaged—lack the ability to use electronic services effectively. This creates a risk of digital exclusion, which directly contradicts the principle of equal access to public administration.[9]

In Hungary, for example, data from the Hungarian Central Statistical Office (2021) indicate that many residents of rural areas—particularly in the Northern Great Plain and Southern Transdanubia regions—do not have home internet access or modern

[6] Balázs Hohmann, 'Integrity Advisors and the Development of Administrative Communication Culture' (2019) 4 *European Journal of Multidisciplinary Studies* 29 https://doi.org/10.26417/ejms-2019.v4i1-527

[7] Balázs Hohmann, 'Interpretation the Concept of Transparency in the Strategic and Legislative Documents of Major Intergovernmental Organizations' (2021) 2(1) Közigazgatási és Infokommunikációs Jogi PhD Tanulmányok (PhD Studies in Administrative and ICT Law) 48 https://doi.org/10.47272/KIKPhD.2021.1.4.

[8] Hungarian National Media and Infocommunications Authority, *Digital Divide in Hungary* (2021).

[9] Diego Mesa, 'Digital divide, e-government and trust in public service: the key role of education' (2023) 8 *Frontiers in Sociology* 1140416 https://doi.org/10.3389/fsoc.2023.1140416

IT devices, thereby limiting their ability to engage with online administration. The period of digital education during the COVID-19 pandemic made this divide especially evident: thousands of children were unable to participate in online classes due to the lack of computers or stable internet connections. This deficit indirectly hampered the acquisition of the basic skills required for the use of e-government services.[10] Similar challenges arose in the context of online systems for accessing social benefits and family support.[11] Older citizens and those with lower educational levels often struggled to use the Client Gate (Ügyfélkapu) or the Electronic Health Services Space (EESZT). Although the Hungarian Maltese Charity Service launched several initiatives to support the digital inclusion of elderly and vulnerable groups, their impact remained local and limited in scope.

Other examples include the Municipal Office Portal (OHP), which offers electronic administration for a wide range of matters—such as address changes, tax certificates, and public health benefits—yet remains difficult to use for segments of the population due to technical barriers or lack of digital skills. Similarly, the KRÉTA system, an administrative platform used in Hungarian schools, was designed to improve communication with parents and students, but many families—especially those in disadvantaged circumstances—encounter obstacles due to technical difficulties or limited IT literacy. In such cases, even the parents' lack of digital competence may become a barrier to access.

To mitigate these digital inequalities, it is of paramount importance to strengthen digital skills development, ensure reliable broadband access in underdeveloped regions, and design e-government platforms that are user-friendly and accessible to all.[12]

2. Infrastructural and Technological Disparities

The successful application of artificial intelligence systems, as well as digitalisation more broadly, presupposes the existence of adequate information technology infrastructure, including stable internet connections, appropriate devices, and network systems capable of supporting digital services. In Hungary, significant progress has been made within the framework of the National Infocommunications Strategy, yet infrastructural coverage continues to vary substantially across regions.[13]

[10] Hungarian Central Statistical Office, *Main Characteristics of ICT Device and Communication Usage in Households, 2020* (KSH, 2021) https://www.ksh.hu/docs/hun/xftp/idoszaki/ikt/2020/01/digitalis_tarsadalom_2020.pdf accessed 15 August 2025.

[11] Matías Dodel, 'Why Device-Related Digital Inequalities Matter for E-Government Engagement' (2024) *Social Science Computer Review* (online first) https://doi.org/10.1177/08944393231176595

[12] Richard Heeks, 'Digital inequality beyond the digital divide: perspectives from an e-government portal in Nigeria' (2022) *Information Technology for Development* https://doi.org/10.1080/02681102.2022.2068492

[13] Gergely Karácsony, *Okoseszközök – okos jog? A mesterséges intelligencia szabályozási kérdései* [Smart devices - smart law? Regulatory issues in artificial intelligence] (Dialóg Campus 2020) 81–83.

The Digital Welfare Programme and the Superfast Internet Programme (SZIP) sought to ensure that by 2018 every Hungarian household would have access to an internet connection of at least 30 Mbps. Although network rollout was achieved in most settlements, actual utilisation has often been hindered by cost, lack of equipment, or insufficient digital skills. Moreover, mobile internet coverage remains uneven: in many border areas or isolated settlements, network disruptions and limited bandwidth are still commonplace.

Technological disparities are also evident across public institutions. Hungarian municipalities, for instance, display significant differences in terms of both IT infrastructure and human capacity. While municipalities in larger cities rely on more advanced systems, those in small rural settlements often operate with only minimal technological resources, thereby exacerbating regional inequalities.[14] Similar challenges can be observed in public education. Despite the adoption of the Digital Education Strategy, many schools still lack interactive whiteboards, projectors, or sufficient computer capacity, leaving them at a disadvantage in terms of developing digital competences.

While governmental programmes aimed at reducing these disparities represent an important step forward, they often lack the long-term operational and maintenance support required for sustainable functioning. For artificial intelligence and digital public administration to succeed, addressing infrastructural inequalities on a national scale is indispensable.[15]

3. Data Security and Data Protection Issues

The digitalisation of public administration generates vast amounts of personal and sensitive data that must be managed with the highest degree of care. Inadequate data protection or system malfunctions may result in breaches that compromise citizens' rights and severely undermine trust in public institutions.[16] The integration of artificial intelligence into administrative processes further amplifies these risks, particularly regarding the fundamental right to the protection of personal data and the corresponding obligations of public authorities.[17]

[14] X. Duanmu, Jintong Yu, Xiaoyan Yuan and Xuecheng Zhang, 'How Does Digital Infrastructure Mitigate Urban–Rural Disparities?' (2025) 17(4) *Sustainability* 1561 https://doi.org/10.3390/su17041561

[15] Polyxeni Vassilakopoulou and Eli Hustad, 'Bridging Digital Divides: a Literature Review and Research Agenda for Information Systems Research' (2023) 25 *Information Systems Frontiers* 955–969 https://doi.org/10.1007/s10796-020-10096-3

[16] Balázs Benjamin Budai, Gábor Bozsó, Sándor Csuhai and István Tózsa, 'Trends in Trust in Public Institutions in Hungary 2017–2023' (2024) 3(8) *Journal of Ecohumanism* 9433–9457 https://doi.org/10.62754/joe.v3i8.5561

[17] Grega Rudolf and Polonca Kovač, 'The Role of Automated Decision-Making in Modern Administrative Law: Challenges and Data Protection Implications' (2024) 22(2) *Central European Public Administration Review* 83–108 https://doi.org/10.17573/cepar.2024.2.04

Traditionally, public administration has been one of the largest data controllers, especially through registries of citizens and the processing of case-specific records. Artificial intelligence, however, expands the scope of data processing by enabling sophisticated pattern recognition, data aggregation, and predictive analysis, which pose significant challenges to informational self-determination.[18]

One of the most pressing concerns is automated profiling.[19] AI systems can aggregate data from a wide variety of sources—both legitimate and potentially dubious—to construct detailed personality profiles of individuals. Such profiles may serve as the basis for decisions that significantly affect a person's rights or legitimate interests.[20] In recognition of these risks, the EU's General Data Protection Regulation (GDPR) expressly prohibits fully automated decision-making—including profiling—that produces legal effects concerning individuals or similarly significantly affects them, unless meaningful human intervention and effective remedies are guaranteed.

This aspect of AI use is particularly sensitive in administrative proceedings, where decisions typically involve the exercise of public authority and directly alter an individual's legal status. Fully automated decision-making in such contexts would jeopardise the principles of the rule of law and the protection of fundamental rights, thereby requiring careful legal regulation and institutional safeguards.[21]

In practice, the application of AI in public administration is currently limited to relatively simple, non-discretionary matters—such as the automatic sanctioning of traffic violations. Beyond such use cases, lawmakers and administrative authorities must ensure that algorithms are introduced only in contexts where data protection and the safeguarding of individual rights are consistently and effectively guaranteed. The large-scale processing of personal data inherent to AI systems must be approached with caution, as the potential for profiling threatens the very essence of the right to informational self-determination.

[18] Christoph Langer, 'Decision-making power and responsibility in an automated administration' (2024) 4 *Discover Artificial Intelligence* 59 https://doi.org/10.1007/s44163-024-00152-1

[19] Gergő Kollár, 'A mesterséges intelligencia alkalmazásának adatvédelmi aggályai a közigazgatásban' [Data Protection Issues on the Application of AI in Public Administration] (2022) 3(1) *Közigazgatási és Infokommunikációs Jogi PhD Tanulmányok* 5–27 https://doi.org/10.47272/KIKPhD.2022.1.1

[20] Paraskevi Christodoulou and Konstantinos Limniotis, 'Data Protection Issues in Automated Decision-Making Systems Based on Machine Learning: Research Challenges' (2024) 4(1) *Network* 91–113 https://doi.org/10.3390/network4010005

[21] Aya Rizk and Ida Lindgren, 'Automated decision-making in public administration: Changing the decision space between public officials and citizens' (2025) 42(3) *Government Information Quarterly* 102061 https://doi.org/10.1016/j.giq.2025.102061

4. System Failures and Technical Issues

The digitalisation of administrative systems offers substantial advantages in terms of efficiency, transparency, and user-friendly service provision; however, it also entails a range of technical risks. The most common challenges include system failures, service outages, incompatibilities caused by software updates, as well as the potential for data loss or system crashes.[22]

Administrative IT systems frequently malfunction or operate with interruptions, particularly during early development phases. The temporary inaccessibility or defective functioning of platforms such as the ASP system or other e-government portals can hinder case management and negatively impact user satisfaction.

Digital administration portals – including Hungary's *Ügyfélkapu* or the KRÉTA educational system – may become periodically unavailable due to overload or display error messages during transactions. In addition, cybersecurity incidents (for example, denial-of-service attacks or data breaches) can severely disrupt administrative processes. The Hungarian e-government infrastructure has also experienced nationwide outages, such as the major system failure on 11 July 2025, which paralysed case management for four days due to disrupted data connections between state databases.

Addressing these challenges requires continuous system testing, the establishment of redundant IT infrastructure, and the strengthening of customer service capacities. Maintaining public trust further depends on transparent communication regarding technical failures and their resolution, especially in sensitive areas such as taxation, health records, or electoral registers.[23]

5. Legislative and Organisational Lag

Technological progress often advances more rapidly than the ability of legislation or administrative institutions to adapt. This results in legal uncertainty and outdated regulations, both of which hinder effective operation. One of the most significant barriers to digitalisation in public administration is the inability of legislative processes and administrative structures to keep pace with the speed of technological innovation.[24] Artificial intelligence and other digital technologies evolve at a rapid rate, while regulatory frameworks and the internal functioning of state organisations frequently respond only belatedly to these developments.

[22] Ines Mergel, 'Digital service teams in government' (2019) 36(4) *Government Information Quarterly* 101389 https://doi.org/10.1016/j.giq.2019.07.001

[23] Anna Visvizi and Miltiadis D Lytras, 'Rescaling and refocusing smart cities research: from mega cities to smart villages' (2018) 9(2) *Journal of Science and Technology Policy Management* 134–145 https://doi.org/10.1108/JSTPM-02-2018-0020

[24] Mariana Mazzucato, *Governing Missions in the European Union* (Publications Office of the European Union 2019)

A central challenge lies in the inadequacy of existing legal norms to address the novel issues arising from the operation of AI systems. Questions relating to responsibility in algorithmic decision-making, the requirements of data protection and transparency, and the auditability of machine learning systems are often left insufficiently resolved. In parallel, organisational shortcomings also impede the success of digital transformation. Many public institutions lack a sufficient number of skilled IT professionals and do not engage in strategic planning that incorporates legal, data protection, and ethical perspectives.[25] Decision-making processes are frequently fragmented, with parallel development projects undertaken in the absence of coordination.

The uneven level of digital competence among civil servants and local government staff exacerbates these difficulties. Although institutions such as the National University of Public Service and other training organisations have launched courses in this area, regular and practice-oriented continuing education is still not the norm. Consequently, employees are often unable to take full advantage of the digital systems that have already been implemented.

The success of digital public administration therefore depends on the simultaneous existence of a sound regulatory environment and institutional digital maturity. AI-driven administration can only become reliable if it is supported both by adequate legal safeguards and by strong organisational competencies.

III. Practical Applications of Artificial Intelligence in E-Government

1. Automated Case Management and Decision-Making

One of the most straightforward application areas of artificial intelligence in public administration is the automation of administrative procedures that do not require discretionary judgment and can be based on rule-driven decision-making.[26] Examples include the imposition of vehicle taxes, the automatic issuance of fines for traffic violations (such as through the Hungarian VÉDA system), or the determination of childcare benefits according to predefined statutory conditions.[27] In such cases, AI does not act as a creative or autonomous decision-maker, but rather operates on logical structures that replicate legal rules.

[25] Balázs Budai, Sándor Csuhai and István Tózsa, 'Digital Competence Development in Public Administration Higher Education' (2023) 15 *Sustainability* 12462 https://doi.org/10.3390/su151612462

[26] Elin Wihlborg, Hannu Larsson and Karin Hedström, '"The Computer Says No!"—A Case Study on Automated Decision-Making in Public Authorities' in *Proceedings of the 49th Hawaii International Conference on System Sciences (HICSS)* (IEEE 2016) 2903–2912 https://doi.org/10.1109/HICSS.2016.364

[27] Agneta Ranerup and Lupita Svensson, 'Automated decision-making, discretion and public values: a case study of two municipalities and their case management of social assistance' (2023) 26(5) *European Journal of Social Work* 948–962 https://doi.org/10.1080/13691457.2023.2185875

This can significantly reduce case-processing times, enhance user satisfaction, and alleviate the workload burden on human staff within public administration.[28] Nevertheless, even in the context of automated decision-making, it is essential that citizens are duly informed when a decision affecting them has been made by a machine, and that they are guaranteed the right to human review.[29] These safeguards are consistent with Article 22 of the EU General Data Protection Regulation (GDPR), which prohibits solely automated decision-making with significant legal effects unless meaningful human oversight and redress are ensured.[30]

2. Data Processing and Decision Support

One of the greatest strengths of artificial intelligence lies in its capacity to analyse and interpret large datasets. In public administration, the vast volumes of information accumulated in tax returns, social benefits, and population registers create valuable opportunities for predictive analytics. AI can, for instance, be deployed in risk assessment, such as identifying potential audit targets for tax authorities; in fraud prevention, by detecting irregular patterns that may indicate tax evasion or benefit misuse; and in capacity optimisation, including forecasting client flows and planning administrative deadlines.[31]

In decision-support systems, AI does not act as an independent decision-maker. Rather, it provides public officials with recommendations, highlights alternative courses of action, or synthesises relevant facts to assist in the decision-making process.[32] This model aligns closely with the current legal framework, as it ensures that human judgement and legal discretion remain central to administrative authority. In this way, AI enhances efficiency and analytical depth without displacing the human responsibility that is indispensable to legitimate governance.[33]

[28] European Commission, *White Paper on Artificial Intelligence: A European approach to excellence and trust* (COM(2020) 65 final, 19 February 2020)

[29] Balázs Hohmann, 'A mesterséges intelligencia közigazgatási hatósági eljárásban való alkalmazhatósága a tisztességes eljáráshoz való jog tükrében [The Applicability of Artificial Intelligence in Administrative Authority Proceedings in Light of the Right to a Fair Trial]' in Bernát Török and Zsolt Ződi (eds), A mesterséges intelligencia szabályozási kihívásai: Tanulmányok a mesterséges intelligencia és a jog határterületeiről [Regulatory Challenges of Artificial Intelligence: Studies on the Borderlands of AI and Law] (Ludovika Egyetemi Kiadó 2021) 403.

[30] Kollár (n 17) 6-10.

[31] Balázs Réfi, 'Mesterséges Intelligencia: Mi az AI és mire használható?' Bluebird (blog) https://bluebird.hu/mesterseges-intelligencia/ accessed 15 August 2025

[32] Vinícius DH de Carvalho, Maria SF Todaro, Rodrigo JR dos Santos, Thais CC Nepomuceno, Tainá Poleto, Carlos JJ Figueiredo and José A de Moura, 'AI-Driven Decision Support in Public Administration: An Analytical Framework' in Álvaro Rocha et al (eds), *Information Technology & Systems* (Springer Nature Switzerland, Cham 2024) 237–246. https://doi.org/10.1007/978-3-031-54235-0_22

[33] Erzsébet Fejes and Iván Futó, 'Artificial intelligence in public administration – supporting administrative decisions' (2021) 66(S1) *Public Finance Quarterly* 23–51 https://doi.org/10.35551/PFQ_2021_s_1_2

3. Chatbots and Natural Language AI Systems in Public Administration

The role of artificial intelligence in citizen support services has become increasingly prominent. Chatbots—intelligent conversational agents—are now capable of providing relevant answers to user queries posed in natural language, either in written or spoken form. These systems rely on the toolkit of natural language processing (NLP), particularly in the case of chatbots and virtual assistants, enabling the automated interpretation of unstructured text and the generation of context-sensitive responses.

Such solutions play a crucial role in enhancing the accessibility of public administration, delivering information swiftly, and alleviating the administrative burden on human officers.[34]

Notable international examples include Canada's digital assistant *AskJulie*, which operates on the immigration office's website and automatically responds to inquiries in both English and French.[35] Similarly, *EMMA*, the chatbot of the US Citizenship and Immigration Services, assists clients in multiple languages.[36] In the United Kingdom, the HM Revenue and Customs (HMRC) deploys an NLP-based assistant to handle frequently asked questions, thereby significantly reducing the workload of officers. [37]

The European Union has also supported the integration of chatbots into public administration. Within the framework of the Digital Single Market strategy, several member-state initiatives—such as France's *Service-Public* and Estonia's *Bürokratt*—have adopted NLP to modernise citizen interaction. [38]

Hungary has likewise witnessed the emergence of AI-driven chatbots specifically developed for administrative purposes. Examples include the customer-support robot of the National Tax and Customs Administration (NAV), the advisory assistant available on the *Ügyfélkapu* portal, and the chatbot employed by the Ministry of Human Capacities (EMMI) to coordinate vaccination appointments. These systems demonstrate high efficiency in managing simple, frequently recurring queries, yet it remains essential that they always allow users to be redirected to a human case officer when dealing with more complex issues.

---

[34] Balázs Hohmann, 'Chatbotok a kormányzati platformok szolgálatában: Alkalmazási követelmények és átláthatósági hatások [Chatbots in the Service of Governmental Platforms: Application Requirements and Transparency Effects]' (2023) 71(4) Belügyi Szemle / Academic Journal of Internal Affairs 691. https://doi.org/10.38146/BSZ.2023.4.8

[35] Shared Services Canada, 'CanChat—SSC's first generative AI chatbot' https://www.canada.ca/en/shared-services/campaigns/stories/canchat-sscs-first-generative-ai-chatbot.html accessed 15 August 2025

[36] US Citizenship and Immigration Services, 'Emma Virtual Assistant' https://www.uscis.gov/tools/meet-emma-our-virtual-assistant accessed 15 August 2025

[37] HM Revenue & Customs, 'Customer service performance updates' (GOV.UK) https://www.gov.uk/government/collections/hmrc-customer-service accessed 15 August 2025

[38] European Commission, *eGovernment Benchmark 2022* (Publications Office of the EU 2022) 42-45 https://data.europa.eu/doi/10.2759/409115 accessed 15 August 2025

The proliferation of chatbots is advantageous not only in terms of cost efficiency but also by increasing the flexibility and round-the-clock availability of administrative services for citizens. At the same time, their deployment raises important ethical and legal concerns, particularly with respect to data protection, the quality of automated responses, and transparency.

IV. Finding and synthesis

The application of artificial intelligence in public administration simultaneously opens new perspectives and raises profound challenges. The innovative opportunities and developmental pathways outlined in this study demonstrate that AI has the potential not only to increase efficiency but also to strengthen citizens' trust—provided that its introduction occurs within an ethical, legally regulated, and transparent framework. A fundamental conclusion is that AI in public administration can only function in a supplementary capacity: it can support officials in their tasks but cannot replace human judgement where individual circumstances or legal sensitivities must be taken into account. Accordingly, the recommended regulatory approach is to keep the scope of fully automated decisions narrow, while broadly extending decision-support applications, ensuring that algorithms remain transparent and auditable in every case.

The success of AI systems depends on the availability of a modern, interoperable, and high-quality data infrastructure. This requires unified data models, the promotion of open data, and robust data protection and security safeguards. At the legislative level, the boundaries of AI use must be clearly defined, with particular attention to cases that directly affect citizens' rights.

Enhancing societal acceptance and ethical legitimacy also relies on improving digital competences: training programmes for civil servants should address not only technical aspects but also the legal and ethical dimensions of AI, while citizen engagement and public information campaigns can foster broader trust in new systems. Furthermore, comprehensive oversight mechanisms—including civil society feedback—are needed to ensure that AI systems serve the public interest rather than becoming ends in themselves. Both domestic and international experiences indicate that AI can add substantial value in many areas of public administration—from automated case management and predictive analytics to conversational agents and virtual assistants. However, to ensure their long-term sustainability, pilot projects are strongly recommended, as they allow for low-risk testing, the identification of operational flaws, and better alignment with user needs.

In sum, AI represents a key instrument for the modernisation of public administration. It has the potential to contribute to a faster, more transparent, and citizen-centred state. Yet this potential can only be realised through gradual and carefully considered implementation, underpinned by legal and ethical safeguards, the centrality of human oversight, and the continuous cultivation of public trust.

V. Conclusion

The application of artificial intelligence in public administration marks a paradigm shift: a turning point that goes beyond mere technological modernization and has the potential to redefine the entire logic of governance and the exercise of citizenship rights. Yet this transformation is not automatically positive; its success depends on the extent to which social justice, democratic oversight, and transparency can prevail throughout its implementation. AI systems are merely instruments—their value is determined by the environment, rules, and objectives under which they are deployed.

The future of public administration stands at a crossroads. One path leads to an efficient yet opaque and unaccountable digital bureaucracy, which may exacerbate feelings of vulnerability and distrust among citizens. The other path points toward the creation of a "service-oriented state," where AI systems support decision-makers, simplify everyday administrative tasks, and thereby enhance citizen satisfaction and participation. The former scenario would be a dead end, while the latter offers an opportunity to build a fairer and more modern state.

The key conclusion is that AI cannot replace the human element in public administration: it must not take over the ultimate role of judgment and accountability. However, it can relieve human capacity from repetitive, routine tasks and enable decision-makers to focus on complex matters with significant societal implications. This duality—the alignment of automation with human responsibility—is what will define the future of the digital state.

In the long run, the introduction of AI will reshape not only the internal operations of public administration but also the relationship between the state and society. Citizens must not remain passive consumers of digital services; without their active participation, feedback, and trust, these systems will remain incomplete. For this reason, social dialogue and civic engagement are at least as important as technical development.

Overall, AI in public administration can only become a true innovation serving the public good if the state succeeds in striking a balance between efficiency, legal certainty, and respect for human rights. The challenge is no less than ensuring that the digital state is simultaneously fast, fair, and human-centered—with AI playing the role of a tool rather than an end in itself.