Digital Civil Servants: The Integration of Artificial Intelligence into Government Workflows

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Abstract

This research investigates how Artificial Intelligence (AI) operates within public administration systems while studying the institutional elements, ethical concerns and social impacts that affect its implementation. Governments worldwide experience increasing pressure to improve their digital transformation efforts because they need to enhance efficiency alongside transparency and service quality through AI applications. AI implementation faces challenges because organizations have different capabilities and policy frameworks and citizens hold varying levels of trust. The research investigates the main factors, which influence public administration AI adoption and their effects on service delivery and governance outcomes. Research has demonstrated AI's operational optimization potential yet lacks thorough examinations of institutional barriers and socio-technical challenges. The research draws from existing literature through qualitative-analytical methods to combine recent empirical findings and policy evaluations, which identify essential factors for AI integration success. Public institutions require more than infrastructure and technical resources to achieve AI readiness because they need leadership dedication combined with legal frameworks and ethical standards and staff training in AI fundamentals. The acceptance of AI by citizens depends on their ability to see through algorithms and believe they operate fairly. The research demonstrates that responsible AI deployment requires integrated strategies, which unite legal framework development with organizational transformation and public participation initiatives. The research provides essential guidance for policy development by showing how governments should integrate AI systems with democratic principles and public expectations.

CCS Concepts

• **Sociology**; • **Artificial Intelligence**;

Keywords

Artificial Intelligence, Public administration, Digital transformation, AI adoption, Public trust, AI literacy

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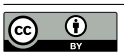

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1 Introduction

Public administration worldwide faces the dual challenges of operational efficiency and responsiveness, as the integration of Artificial Intelligence (AI) represents both a significant opportunity and a complex obstacle for governments. The implementation of AI introduces transformative potential, encompassing administrative automation, enhanced service delivery, and improved policy development processes. However, empirical evidence indicates that the outcomes of AI integration in governmental operations remain heterogeneous, reflecting the influence of multiple contextual and organizational factors.

The success of AI implementation is contingent upon several interrelated determinants, including organizational readiness, robust digital infrastructure, leadership commitment, ethical oversight, and the cultivation of public trust, as highlighted in recent scholarly research. Furthermore, contemporary studies reveal considerable variation in AI adoption rates across different levels of government and diverse national contexts, suggesting that socio-political, economic, and cultural factors play a critical role in shaping implementation trajectories.

Despite the recognized benefits, AI deployment in public administration continues to encounter persistent challenges. Legal and regulatory ambiguities, algorithmic bias, insufficient training and capacity-building for public officials, and fragmented governance structures collectively hinder the realization of AI's full potential. Addressing these multifaceted challenges requires a comprehensive framework that integrates technological, organizational, and ethical considerations to ensure that AI adoption contributes effectively to both efficiency and responsiveness in the public sector.

The research examines AI implementation in public sector workflows through a governance and implementation lens to identify key drivers and challenges and contextual elements that affect the process. The existing literature mainly investigates technical capabilities and ethical implications but our research investigates organizational and institutional readiness factors that enable effective AI use in government operations.

This research investigates the practical implementation gap between AI theoretical capabilities and public administration operational applications. Furthermore, the research investigates how governments should organize their structures, resources and regulatory systems to establish ethical and efficient AI integration within their operational workflows. The research develops a readiness

model, which provides practical solutions to unite policy with technology and governance during the digital transformation of civil service.

2 DRIVERS AND BARRIERS TO AI ADOPTION IN PUBLIC ADMINISTRATION

Public administration implements Artificial Intelligence (AI) through multiple variables, which produce varying effects between governmental levels [1]. The implementation of AI depends on organizational capacity and technological infrastructure and policy and legal frameworks and stakeholder engagement and leadership commitment and ethical considerations and interoperability of systems and public trust and privacy concerns [2].

AI adoption in the public sector depends fundamentally on the organizational readiness of institutions. The readiness includes both organizational culture support and skilled personnel presence and AI alignment with institutional objectives [3]. The perceptions of public sector managers alongside their attitudes play a significant role in AI adoption because employee resistance or skepticism creates obstacles while awareness and understanding of AI potential becomes crucial [4]. Leadership commitment drives adoption by demonstrating institutional backing, which allows the organization to acquire needed resources [5].

Digital infrastructure represents a vital requirement for AI deployment in public administration because it must contain dependable internet connectivity with high-quality data and suitable computational resources [6]. The majority of public institutions exist at basic stages of digital transformation, which hinders their readiness to deploy AI solutions. The technical environment becomes more complicated because legacy systems create compatibility problems while data standardization remains an essential requirement.

Government implementation of AI needs comprehensive policy and legal frameworks to establish responsible and ethical usage practices. The established frameworks need to address essential matters, which include data privacy and algorithmic bias and accountability standards [7]. The legal liability uncertainties pose a significant barrier to adoption because regulatory frameworks fail to keep pace with developing technology. Public trust development and maintenance requires serious attention to ethical concerns about transparency and fairness and human rights [8].

The varying levels of budgetary resources together with technical expertise and administrative scale create distinct patterns of AI adoption between different government entities. Local governments encounter budget and personnel shortages that make it difficult for them to invest in AI technology [9]. Regional governments possess more capability but experience problems in coordinating their activities across different jurisdictions [1]. National governments lead AI implementation because they possess broader responsibilities and greater financial resources and capabilities to execute extensive national strategies [10].

Germany's varying AI adoption rates across territories show that institutions play a role so AI strategies must be developed according to local conditions [9]. AI adoption in China progresses through three distinct stages, which require different policy measures and managerial strategies [11]. The multi-level governance system in Canada allows federal and provincial governments to pursue separate AI initiatives, which demonstrates the benefits of unified cross-jurisdictional coordination [12]. The federal government in the United States establishes policy frameworks to boost productivity and efficiency, which function as strong motivators for AI implementation [13].

The public sector success of AI implementation strongly relies on how citizens perceive these technologies. The level of trust citizens have along with their acceptance of AI systems determines their willingness to adopt or reject these technologies [14]. Research indicates that public support for government AI implementation depends on the degree of uncertainty regarding algorithmic transparency and fairness [15]. Governments should establish open communication channels to address citizen concerns because transparency forms the foundation for successful public AI acceptance.

Public organizations use their built-in AI abilities to harness technological progress for developing public value [16]. The combination of public institutions with private tech companies and civil society organizations speeds up knowledge sharing which leads to innovation development [17]. Public sector staff need to develop AI literacy skills to build their confidence and proficiency in AI tool usage. The availability of data-based knowledge offers organizations an effective way to enhance their decision-making capabilities and service delivery operations [18].

The adoption of AI in public sector depends on digital infrastructure together with organizational resources and the level of digital government maturity and digital society development [19]. The implementation of AI into governance systems creates opportunities for ethical and regulatory frameworks, which function both as enabling factors and as systems that adapt to AI integration.

Several obstacles continue to exist. The lack of success in finding and maintaining AI specialists and insufficient funding for AI development, implementation and unclear accountability standards pose major obstacles. The solution to these challenges demands strategic investment combined with cross-sector collaboration and adaptive governance structures that can adapt to the changing AI landscape.

3 IMPACT OF AI IN PUBLIC SERVICE DELIVERY

Public administration experiences significant transformations in service delivery efficiency through artificial intelligence (AI) [18]. AI enables operational efficiency through automatic processing of large datasets and personalized service delivery capabilities [19]. The effects of AI on transparency and citizen satisfaction vary based on essential factors such as algorithmic explainability, public trust and citizen-perceived fairness [20].

The implementation of AI systems improves public service delivery through automated tasks and optimized resource distribution and better decision support [2]. Through data analysis AI systems help public administrators optimize resource allocation and streamline processes by identifying patterns in vast datasets [8]. AI applications lead to two benefits: cost reduction and accelerated response times [10]. The implementation of AI-powered chatbots for routine inquiries allows staff to redirect their efforts toward solving complicated problems [15]. AI applications for fraud detection and

predictive policing and traffic management systems show potential to improve public service delivery efficiency [5].

The influence of AI on public administration transparency remains intricate to evaluate [21]. AI systems make public data more accessible while providing fresh analytical capabilities to boost transparency [10]. Governmental activities along with policies and performance metrics become available in real-time through AI technology [21]. Opaque algorithms and machine learning models operate as "black boxes" which generate confusion about decision-making processes among citizens [20]. The public's trust in AI systems decreases because of two main factors: algorithmic bias and inadequate explainability of AI systems [13]. The establishment of strong systems for algorithmic transparency along with accountability requirements stands as a necessity. AI systems need transparent explanation about their operation methods and decision-making logic and their designated usage [20].

The level of satisfaction among citizens regarding AI in public administration depends on their perceptions about fairness as well as transparency and effectiveness [13]. Public satisfaction levels increase when citizens view AI systems as fair, efficient and simple to use. Negative perceptions of bias alongside a lack of transparency and unfairness will cause citizens to become dissatisfied and lose trust in AI systems [20]. According to research findings, people trust AI systems more when decisions include transparent explanations that explain unfavorable outcomes [20]. The process of public engagement together with education plays an essential role in developing trust and acceptance of AI within government institutions. The participation of citizens during AI system design and implementation ensures that solutions match societal values while addressing public requirements [13].

AI implementation experiences different results across governmental levels because these entities possess distinct resource capabilities, technological skills and policy objectives [22]. Local governments encounter difficulties when trying to implement advanced AI solutions because they face budget restrictions together with limited technical knowledge. Regional governments possess more resources yet experience challenges in coordinating AI strategies between their various jurisdictions. National governments possess the highest ability to build extensive AI frameworks and execute extensive nationwide projects [22]. AI implementation strategies must be adapted to local institutional conditions because territorial differences in local administration AI adoption exist [22].

A comprehensive solution involving organizational, technological, policy, ethical and public perception elements will optimize AI benefits in public administration while reducing risks [12]. Digital infrastructure development represents a key priority for investment along with the establishment of explicit legal, policy frameworks and the promotion of transparent algorithmic processes and the enhancement of AI literacy for public officials and active citizen participation in AI governance [19]. Governments can achieve successful AI implementation of public services, which both increase efficiency and transparency and meet citizen needs through comprehensive solution of interconnected elements [2].

4 ETHICAL, LEGAL, AND ORGANIZATIONAL CHALLENGES

The public sector decision-making processes with Artificial Intelligence (AI) encounter multiple obstacles, which stem from ethical considerations and legal requirements and organizational barriers [14]. The implementation of AI systems generates multiple challenges, which stem from bias concerns alongside privacy issues and demands transparency and accountability standards [1]. AI systems trained on biased data will continue and strengthen social inequalities that produce discriminatory outcomes within essential domains of law enforcement and social services [23]. The ethical concern of algorithmic bias requires organizations to focus on data quality assessment alongside algorithm design development and continuous monitoring systems [23].

The ethical problem of transparency stands prominent because many complex AI algorithms create decision-making processes which remain unclear thus damaging public trust and making accountability efforts complicated [23]. Explainable AI (XAI) techniques partially address the decision-making transparency of AI systems yet these tools fail to completely resolve the inherent opacity in various AI systems [23].

Public sector organizations encounter severe legal problems when deploying AI systems because these deployments create substantial risks to data privacy while also creating difficulties in establishing accountability. The use of AI systems depends heavily on massive datasets, which creates obstacles for organizations to meet European Union General Data Protection Regulation (GDPR) requirements [1]. The legal system needs to implement measures, which ensure people understand data usage and provide them with control over their information [1]. The problem of accountability becomes most severe when AI systems generate negative results through errors because it becomes unclear who bears responsibility for these incidents. Public organizations need to create clear lines of accountability that support appropriate legal liability [23]. Many legal matters surrounding AI continue to remain unresolved because the regulatory environment for AI remains uncertain [23].

Organizational challenges make AI integration more difficult to achieve. Employees who fear job replacement or doubt AI capabilities show resistance to implementation, which hinders successful deployment [3]. The resolution of these issues demands proper change management alongside effective communication strategies. Public servants face widespread challenges because they lack sufficient AI literacy, which creates barriers to successful AI adoption [7]. Training programs alongside education programs should receive investment because they enable staff to properly manage and work with AI technology systems. Organizational coordination together with substantial infrastructural investment becomes necessary for workflow integration of AI because it enables alignment between technological developments and institutional objectives [8].

Public sector organizations should address ethical concerns by implementing high-quality data management systems and designing algorithms with care and performing regular monitoring activities [1]. XAI methods improve transparency levels, which helps people trust decisions made by AI systems [23]. The legal challenges stemming from privacy and accountability need organizations to

follow data protection regulations strictly while defining precise responsibilities for AI-generated outcomes [1]. The constantly evolving nature of AI technologies requires regulatory frameworks that can adapt to new situations while international collaboration ensures legal systems maintain their response capabilities [1]. Organizations need to establish extended strategies for employee engagement combined with education and capacity building to defeat change resistance while improving AI literacy [3]. Strategic planning along with institutional objective alignment serve as essential elements for establishing sustainable AI implementation [8].

Latest studies demonstrate that public decision-making benefits from AI only when these ethical, legal and organizational challenges receive proper attention [19]. Public sector institutions can create fair, transparent and accountable AI applications through proactive management of these issues [14]. Public administration success in AI implementation depends on both technical efficiency and the acceptance of AI technologies by citizens. The public's trust along with their acceptance and willingness to accept AI-driven governance depends on how transparent and inclusive these technologies appear to be [13]. Understanding public concerns becomes essential for establishing legitimacy because it leads to widespread support for AI implementations in government operations [13].

5 Are governments ready?

Artificial Intelligence (AI) has quickly become one of the most significant technologies of the 21st century and governments of all stripes around the globe are starting to use it. Public discourse has focused heavily on governments as regulators of AI, but governments are also AI users, developers and experimenters. A recent OECD report examines how, if at all, governments are applying AI to improve productivity, responsiveness, accountability and to address the ethical, social and institutional challenges which accompany such applications [24].

The possibilities for productivity gains from AI in the public sector are seemingly enormous. AI can increase productivity by automating repetitive tasks and speeding up the processing of information for decision-making. For example: governments have used machine learning to assess satellite images for land use purposes, or to classify incoming administrative correspondence automatically. As civil servants automate or simplify these types of tasks, they can spend their time on more complicated and strategic work. In addition to increasing productivity, AI can help policymaking by providing ways for governments to analyze and utilize larger datasets that identify social needs with greater precision, and design effective interventions. One example is the use of AI in the mundane decision making of municipalities in the Netherlands where, for example, municipal governments use AI to monitor traffic and economic activity so that they can use evidence for urban planning. [25] [26]

Another beneficial contribution of AI is the potential for improving the government's responsiveness to citizens. Governments can also customize public services by using conversational agents and recommendation systems. A welfare provider in Norway used a chat bot named Frida during the COVID-19 pandemic period so citizens could access social benefits 24/7. Frida was able to handle the majority of citizens' queries with no human interaction. These applications enhance the quality and delivery time of services, and reduce pressure on already burdened public servants. Similarly, initiatives such as AuroraAI in Finland indicate the potential for governments to apply AIand jointly co-designing proactive, life-event, services centred on needs rather than simple citizen requests.

The potential for AI to assist with assurance in government is also worth noting. Data and algorithms driven systems, platforms and processes are increasingly being used to investigate fraud, corruption and irregularities. There are now many data driven initiatives that help to explore these issues, including tax administrations, procurement, and social benefit systems, etc. For example, Canada is trialing the use of AI systems as a means to screen high risk cargo before it crosses its borders, as a way to increase safety and transparency. Brazil has also seen an increase in the use of electronic monitoring of procurement processes and has applied automated systems capable of detecting suspicious behavioural patterns, to improve the integrity and the trust in public spending. While AI is not a replacement for oversight investment, it can indeed support building a more transparent, equitable, fair and efficient government by drawing from the oversight concept.

With that being said, using AI in the public sector presents real dangers. Equally, if not worse, if deployed poorly. AI has the potential to further push bias, discrimination, abuse, and violations of privacy and the unfair treatment of individuals/communities. When it comes to the public sector, welfare benefits or immigration, policing and law enforcement and similar contexts - have a very practical challenge with potential negative outcomes in wayward operation and bias. In addition, the opacity of complex AI systems creates challenges to transparency and accountability that alter expectations for citizen to understand, or to contest, algorithmic decisions. These challenges highlight the need for governments to create appropriate protections, including ethical frameworks, algorithm registers and public impact statements. [27]

OECD countries are trying a range of approaches to these considerations, including: Some countries are developing whole of government approaches to AI such as strategic objectives, guiding principles and oversight. Some are experimenting with new institutional forms, such as establishing AI supervisory agencies, establishing Chief AI Officers in existing departments, or devolving decision-making about AI to new and different approaches. Regulatory frameworks are evolving: the European Parliament adopted the EU AI Act in 2024 as the the first AI framework globally that categorises the risk level associated with AI systems and imposes obligations associated with high-risk uses, including in the the public sector. Countries like Canada and Australia have also implemented mandatory statements and ethical frameworks about automated decision-making in the public administration.

Capacity building is fundamental to sustainability. Encouraging government investment in digital skills development for civil servants and in data governance, and public digital infrastructure for AI will make it easier to embed AI into public service delivery. Both initiatives came from Finland's free open-access online course Elements of AI, and Ireland's AI upskilling programme for public sector employees, demonstrate how governments can increase workforce capabilities to implement AI responsibly. Relationships with academia, industry, and civil society are increasingly important for public service employoment to drive innovation, for risk

assessment, and for co-design of trustworthy solutions to societal challenges. [28]

Regardless of the approaches taken, it is necessary to promote responsible AI use that recognises that there is a balance between innovation and caution; the implications for, and potential of, AI to contribute to improve efficiency, responsiveness, and accountability must be taken into consideration but have to be consistent with democratic values, human rights and the public interest. That balance, as indicated in the OECD report, is not simple or straightforward and requires coherent approaches, international collaboration, and ongoing evaluation of the outcomes. If governments appreciate both enablers and guardrails, AI can act as more than a tool for efficiency, and able to act as a force for more inclusive, transparent and trustworthy governance in the digital age.

6 DISCUSSION

Artificial Intelligence (AI) integration into public administration has led to the emergence of digital civil servants thus creating a major shift in governance practices. The research explores the various dimensions of this transformation by revealing its potential benefits alongside its serious implementation challenges. AI technologies deliver important advantages, which include improved efficiency and enhanced transparency along with better public service delivery yet their implementation shows variations across different governmental levels.

The national government enjoys better adoption capabilities for AI because it operates under broader responsibilities with greater financial resources and technical capabilities. Local and regional authorities encounter budgetary limitations, inadequate infrastructure and jurisdictional fragmentation, which prevents them from successfully implementing advanced technological solutions. AI adoption depends more on institutional capacity and governance structures than on technological readiness according to the research.

The study views AI as a fundamental governance approach, which exceeds its tool-based definition. Public administrators employ new technologies to transform decision-making systems while creating new frameworks for accountability and ways to engage citizens. The essential enablers for this transformation include digital infrastructure robustness together with leadership dedication and cross-sectoral teamwork and most importantly public trust. The variable of public trust stands as a critical element, which demands special attention. AI governance acceptance from citizens directly correlates with their beliefs about openness together with equity and moral conduct. The breakdown of public trust happens when algorithms demonstrate either unclear operations or biased actions, which weakens the legitimacy of administrative systems designed to enhance performance.

These findings carry weighty implications. Governments need to shift their focus away from technology alone and build their digital transformation through approaches that prioritize the needs of people. The development of ethical standards alongside regulatory measures and public awareness initiatives must parallel technical system deployments to maintain democratic principles. The research demonstrates that AI implementation might create administrative disparities that worsen over time. The continued technological advantage of well-funded national agencies above underfunded local institutions creates the potential for uneven digital governance benefits, which may intensify existing social disparities.

Despite its limitations, the study maintains its value. The study depends primarily on existing research and policy documents instead of original empirical data or real-world case examples to support its findings. The actual effects of AI deployment on operational costs and user contentment together with sustained performance outcomes remain uncertain because of insufficient concrete evidence. The paper fails to deliver substantial understanding about how political cultures and legal frameworks together with social beliefs affect AI implementation in different geographic areas. AI technologies advance at a fast pace so today's findings may become irrelevant in a short period.

Several new research directions along with policy improvements become apparent after considering these factors. Research based on empirical data that tracks how civil servants and citizens along with policy designers experience interactions with AI systems would strengthen the existing conceptual findings. Research on how trust in digital governance forms or breaks across various cultural and demographic groups can generate significant understanding. AI literacy programs for public sector workers should be evaluated for their institutional impact to develop better capacity-building methods. Governments should establish pilot programs and sandboxes for regulatory testing because these frameworks enable them to develop adaptive systems that adapt to technological progress without compromising ethical and legal requirements.

AI integration into government operations requires complex navigation but remains achievable. This process requires both technological improvements along with institutional rule changes and enhanced legal definitions and improved public involvement methods. Governments that use a complete and inclusive method can harness AI technology to build efficient administrations, which are transparent and responsive to citizens' needs while maintaining fairness, and democratic accountability principles that form the foundation of public service.

7 CONCLUSION

The research investigated how Artificial Intelligence (AI) integration affects public administration operations by studying both positive transformations and various implementation barriers. The research investigated how public government AI adoption depends on organizational readiness combined with digital infrastructure alongside legal frameworks and ethical standards and public trust.

The public sector needs successful AI implementation to succeed through technical capabilities and institutional culture and leadership commitment and legal clarity and ethical safeguards. The research indicates that AI delivers substantial benefits for service delivery and transparency and operational efficiency yet requires strategic planning and inclusive approaches and adaptability to achieve its full potential. The different readiness levels of government entities demonstrate the necessity for customized strategies and coordinated efforts between jurisdictions.

The research established three essential findings about public administration AI implementation. Public administration needs a

complete integration strategy for AI, which must consider organizational aspects together with technical elements and societal factors. Public trust together with transparency and fairness represent essential requirements for citizens to accept AI-based governance systems. Governments need to allocate funds toward developing digital infrastructure and AI literacy and regulatory adaptability to handle the changing challenges of AI deployment.

Public sector institutions can use AI to enhance efficiency and build democratic legitimacy and equity and accountability in governance through coordinated management of these interconnected factors.

Furthermore, the integration of Artificial Intelligence (AI) in public administration requires a multifaceted approach that extends beyond mere technological deployment. While AI offers the potential to optimize workflows, enhance predictive capabilities, and improve decision-making accuracy, its successful implementation hinges on the alignment of organizational culture, employee competence, and leadership vision. Research highlights that employees' willingness to adopt AI-driven processes is strongly influenced by their perception of its transparency, fairness, and ethical grounding. Therefore, comprehensive training programs, continuous professional development, and clear communication of AI policies are pivotal in mitigating resistance and fostering an organizational climate conducive to innovation.

Equally important is the establishment of robust ethical and legal frameworks to guide AI adoption. Ethical considerations, including algorithmic fairness, accountability, and data privacy, are central to maintaining public trust and ensuring that AI applications do not inadvertently reinforce existing inequalities. Legal frameworks must provide clarity regarding liability, compliance, and the boundaries of automated decision-making while remaining flexible enough to adapt to the rapid evolution of AI technologies. Coordination across governmental levels, including interdepartmental collaboration and public-private partnerships, can further ensure that AI implementation is both contextually appropriate and scalable, minimizing the risks of fragmented or inconsistent applications.

The research also emphasizes the necessity for evidence-based evaluation mechanisms to assess the impact of AI integration on public administration outcomes. Quantitative metrics, such as reductions in processing times, cost savings, and improvements in service accessibility, should be complemented by qualitative assessments, including citizen satisfaction, employee perceptions, and organizational adaptability. By systematically monitoring these outcomes, governments can identify best practices, replicate successful models, and iteratively refine AI strategies to maximize public value. Moreover, longitudinal studies are essential to determine how AI systems influence institutional performance, decision-making quality, and societal trust over time, providing critical feedback for policymakers and administrators alike.

Finally, AI adoption in the public sector carries significant implications for equity and inclusivity. While AI can potentially reduce human bias and enhance the accessibility of public services, disparities in digital literacy, resource allocation, and infrastructure readiness can exacerbate existing inequalities if not proactively addressed. Governments must therefore adopt inclusive strategies that prioritize training, equitable access to AI-enabled services, and participatory approaches to policy design. Engaging stakeholders—including employees, citizens, and civil society organizations—in the design and implementation of AI systems enhances legitimacy and accountability, ensuring that technological advancements translate into tangible societal benefits.

According to a recent OECD report, governments worldwide are not only regulators of artificial intelligence (AI) but also active users and developers. AI can enhance public sector efficiency by automating repetitive tasks, analyzing large datasets, and personalizing public services through tools such as chatbots or urban planning data analysis. It can also strengthen transparency and accountability, for instance, in detecting corruption, fraud, or irregularities. However, AI also carries significant risks: if poorly implemented, it may reinforce bias, discrimination, and privacy violations, while raising challenges of transparency and accountability. To address these concerns, governments are adopting ethical frameworks, regulatory tools, institutional innovations, and skill-building programs to balance the benefits of innovation with the protection of democratic values. The ultimate goal is for AI to become a means of enabling more effective, transparent, and trustworthy governance in the future.

In conclusion, AI integration in public administration represents a complex but transformative opportunity, contingent upon organizational readiness, ethical safeguards, legal clarity, leadership commitment, and inclusive strategies. A holistic approach that combines technical innovation with cultural, regulatory, and societal considerations enables governments to harness AI effectively, improving efficiency, transparency, and public trust. Future research should further investigate the long-term institutional effects of AI, comparative implementation strategies across jurisdictions, and the interplay between AI literacy and democratic governance, thereby contributing to the development of resilient, adaptive, and citizen-centered public administration.

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References

[1] Krunal Manilal Gala. (2024). Ethical and Legal Considerations in AI-Driven Health Cybersecurity. International Journal of Scientific Research in Computer Science, Engineering and Information Technology, 10(5), 682–690. Online: https://doi.org/10.32628/cseit241051059

[2] Dei, H. (2025). Artificial intelligence in public administration: benefits and risks. Management (Montevideo), 3, 137. Online: https://doi.org/10.62486/agma2025137

[3] Haesevoets, T., Verschuere, B., Roets, A. (2025). AI adoption in public administration: Perspectives of public sector managers and public sector non-managerial employees. Government Information Quarterly, 42(2), 102029. Online: https://doi.org/10.1016/j.giq.2025.102029

[4] Androutsopoulou, M., Askounis, D., Carayannis, E. G., Zotas, N. (2024). Leveraging AI for Enhanced eGovernment: Optimizing the Use of Open Governmental Data. Journal of the Knowledge Economy. Online: https://doi.org/10.1007/s13132-024-02317-w

[5] Włodyka, E. M. (2024). Artificial Intelligence as a Supporting Tool for Local Government Decision-Making in Public Safety. Przegląd Nauk o Obronności, 17, 80–91. Online: https://doi.org/10.37055/pno/185616

[6] Shvets, K., Onyshchenko, A., Kudin, V., Korchak, N., Ivanii, O. (2024). Application of artificial intelligence in modern public administration: new opportunities and challenges. International Journal of Informatics and Communication Technology (IJ-ICT), 13(3), 509. Online: https://doi.org/10.11591/ijict.v13i3.pp509-518

[7] Kumar, R., Singh, A., Kassar, A. S. A., Humaida, M. I., Joshi, S., Sharma, M. (2025). Adoption challenges to artificial intelligence literacy in public healthcare: an evidence based study in Saudi Arabia. Frontiers in Public Health, 13. Online: https://doi.org/10.3389/fpubh.2025.1558772

[8] van Noordt, C., Tangi, L. (2023). The dynamics of AI capability and its influence on public value creation of AI within public administration. Government Information Quarterly, 40(4), 101860. Online: https://doi.org/10.1016/j.giq.2023.101860

[9] Horani, O. M., Al-Adwan, A. S., Yaseen, H., Hmoud, H., Al-Rahmi, W. M., Alkhalifah, A. (2023). The critical determinants impacting artificial intelligence adoption at the organizational level. Information Development. Online: https://doi.org/10.1177/02666669231166889

[10] Odilov, J. (2024). Digital Use of Artificial Intelligence in Public Administration. International Journal of Law and Policy, 2(3), 7–15. Online: https://doi.org/10.59022/ijlp.161

[11] Yang, J., Blount, Y., Amrollahi, A. (2024). Artificial intelligence adoption in a professional service industry: A multiple case study. Technological Forecasting and Social Change, 201, 123251. Online: https://doi.org/10.1016/j.techfore.2024.123251

[12] Sienkiewicz-Małyjurek, K. (2023). Whether AI adoption challenges matter for public managers? The case of Polish cities. Government Information Quarterly, 40(3), 101828. Online: https://doi.org/10.1016/j.giq.2023.101828

[13] Azzahro, F., Hidayanto, A. N., Shihab, M. R. (2025). Examining factors shaping citizens' perception of artificial intelligence in government: A systematic literature review. Social Sciences & Humanities Open, 11, 101518. Online: https://doi.org/10.1016/j.ssaho.2025.101518

[14] Datta, K. (2024). AI-DRIVEN PUBLIC ADMINISTRATION: OPPORTUNITIES, CHALLENGES, AND ETHICAL CONSIDERATIONS. The Social Science Review A Multidisciplinary Journal, 2(6). Online: https://doi.org/10.70096/tssr.240206023

[15] Damar, M., Özen, A., Çakmak, Ü. E., Özoğuz, E., Erenay, F. S. (2024). Super AI, Generative AI, Narrow AI and Chatbots: An Assessment of Artificial Intelligence Technologies for The Public Sector and Public Administration. Journal of AI, 8(1), 83–106. Online: https://doi.org/10.61969/jai.1512906

[16] Jobin, A., Guettel, L., Liebig, L., Katzenbach, C. (2021). AI Federalism: Shaping AI Policy within States in Germany (Version 1). arXiv. Online: https://doi.org/10.48550/ARXIV.2111.04454

[17] Ayed AlGarni, Dr. A., M. Malkawi, P. Dr. N., N. Malkawi, E. M. (2024). Achieving Governmental Innovation through Artificial Intelligence Adoption. International Research Journal of Innovations in Engineering and Technology, 08(06), 137–148. Online: https://doi.org/10.47001/irjiet/2024.806017

[18] Maragno, G., Tangi, L., Gastaldi, L., Benedetti, M. (2023). Exploring the factors, affordances and constraints outlining the implementation of Artificial Intelligence in public sector organizations. International Journal of Information Management, 73, 102686. Online: https://doi.org/10.1016/j.ijinfomgt.2023.102686

[19] Shvets, K., Onyshchenko, A., Kudin, V., Korchak, N., Ivanii, O. (2024). Application of artificial intelligence in modern public administration: new opportunities and challenges. International Journal of Informatics and Communication Technology (IJ-ICT), 13(3), 509. Online: https://doi.org/10.11591/ijict.v13i3.pp509-518

[20] Aljuneidi, S., Heuten, W., Abdenebaoui, L., Wolters, M. K., Boll, S. (2024). Why the Fine, AI? The Effect of Explanation Level on Citizens' Fairness Perception of AI-based Discretion in Public Administrations. Proceedings of the CHI Conference on Human Factors in Computing Systems, 1–18. Online: https://doi.org/10.1145/3613904.3642535

[21] Barsekh-Onji, A., Torres Hernandez, Z., Cardoso Espinosa, E. O. (2025). Advancing smart public administration: Challenges and benefits of artificial intelligence. Urban Governance. Online: https://doi.org/10.1016/j.ugj.2025.06.003

[22] Clim (Moga), L. M., Man, M., Oncioiu, I. (2025). Mapping Territorial Disparities in Artificial Intelligence Adoption Across Local Public Administrations: Multilevel Evidence from Germany. Administrative Sciences, 15(7), 283. Online: https://doi.org/10.3390/admsci15070283

[23] More, M., Shah, S., Shelke, A., Behare, N. (2025). Ethical and Regulatory Considerations in AI Adoption Within Legal Systems. In Exploration of AI in Contemporary Legal Systems, 163-186, 2025.

[24] OECD (2024). Governing with Artificial Intelligence: Are governments ready?. *OECD Artificial Intelligence Papers*, No. 20, OECD Publishing, Paris. Online: https://doi.org/10.1787/26324bc2-en.

[25] Fasi, Csaba (2022): Application of Artificial Intelligence in Administrative Decision-making. In: Gergely, Deli; Robert, Müller-Török; Alexander, Prosser; Dona, Scola; Nicolae, Urs (szerk.) Proceedings of Central and Eastern European e|Dem and e|Gov Days 2022. CEEE|Gov Days 2022 : Hate Speech and Fake News – Fate or Issue to Tackle?. New York, USA : Association for Computing Machinery (ACM)

[26] Fási, Csaba (2020): A digitalizáció egyes közigazgatási aspektusai. In: Bihari, Erika; Molnár, Dániel; Szikszai-Németh, Ketrin Tavaszi Szél - Spring Wind 2019: Tanulmánykötet 2. Budapest, Magyarország : Doktoranduszok Országos Szövetsége (DOSZ) (2020) 604 p. pp. 445-454.

[27] Fási, Csaba (2023): Automatizált megoldások alkalmazása a közigazgatási döntéshozatalban a posztszocialisa ország nézőpontjából. MAGYAR JOG 70 : 6 pp. 346-356.

[28] Fási, Csaba (2023): A fenntarthatóság dimenziói és a hazai felsőoktatási intézmények helyzetének egyes aspektusai a fenntarthatósági rangsorok tükrében. ACTA HUMANA: HUNGARIAN CENTRE FOR HUMAN RIGHTS PUBLICATIONS 11 : 3 pp. 117-135.