

Predictive Governance. Balancing Efficiency and Liberties in AI-Driven Bureaucracy

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Abstract

This research explores the model of predictive governance and focuses on the introduction of AI within the bureaucratic apparatus to enhance administrative effectiveness. The main objective is to analyze the impact of AI-based decision-making on public administration and the legal concerns it raises regarding civil liberties and democratic accountability. By applying an interdisciplinary methodology, comparative case studies and technological analysis of algorithmic systems, the research identifies the main benefits: automating routine tasks, improving service delivery and data-driven policy making. It also identifies threats: algorithmic opacity, erosion of procedural safeguards, mass surveillance and marginalization of human control. The study concludes that unregulated predictive governance can lead to a techno-bureaucratic style emphasizing efficiency over rights. To prevent this, a balanced system of governance based on transparency and legal accountability is proposed. The implications are twofold: policymakers need to take proactive regulatory measures to control the deployment of artificial intelligence in government, and countries need to ensure that technological progress does not undermine fundamental freedoms.

Keywords: bureaucratic apparatus, artificial intelligence, government, administrative law.

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1. Introduction

In recent years, government systems have transitioned to predictive analytics and artificial intelligence (AI) to reimagine public administration as more efficient, responsive, and future-oriented systems.

Predictive governance - a framework based on real-time data analytics,

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machine learning, and algorithmic decision-making - can potentially streamline administrative processes by anticipating needs, detecting fraud, and optimizing public services. They enable governments to act not only on current circumstances but also on likely future situations, thus shaping a new model of data-driven governance that seeks to maximize policy impact and resource allocation.³

However, this transformation is accompanied by profound legal, ethical, and institutional questions. The integration of AI in governance has triggered concerns about algorithmic opacity, diminished human oversight, and the erosion of procedural safeguards. Scholars have emphasized the emergence of a "sociotechnical imaginary"—a vision in which the future becomes governable through digital prediction, yet risks reinforcing control, surveillance, and inequality.⁴

As such, predictive governance not only reconfigures administrative efficiency but also redefines the balance between innovation and fundamental civil liberties.

This study is designed to critically analyze the new model of predictive governance, i.e., its use of artificial intelligence (AI) in public administration and consequent legal issues. This study is written in the form of many significant sections: it starts with an introductory section declaring the study problem in short as well as the background, followed by a conceptual framework on algorithmic governance and predictive analytics, etc. Later chapters analyze the advantages and dangers of AI-driven governance and evaluate the implications of the law for civil liberties and democratic rule.

This research draws on interdisciplinary research methods from public law, administrative theory and technology studies. The study systematically examines the legal literature, policy texts and regulatory regimes in an attempt to identify gaps in the rules and develop standards.

In addition, the study incorporates a technological understanding of algorithmic systems by considering predictive modelling, machine learning and data infrastructures within bureaucratic frameworks. This involves consideration of algorithmic opacity, explainability and human agency in autonomous decision making. It considers how these systems reorganize bureaucratic discretion and institutional accountability and how they operate.

Through this dual concern—technological and legal—the research offers an earthed conceptualization of predictive government, placing as much its revolutionary potential as the necessity for effective bulwarks so that effectiveness is not achieved at the expense of rights.

2. Conceptual and Theoretical Framework

Predictive governance refers to the application of artificial intelligence (AI),

³ Christophe Lazaro, Marco Rizzi, „Predictive analytics and governance: a new sociotechnical imaginary for uncertain futures”, *International Journal of Law in Context*, Vol. 19, Issue 1, 2023, pp. 70-90, Doi: 10.1017/S1744552322000477.

⁴ *Ibidem*.

machine learning, and big data analytics on government decision-making platforms to predict what society will require, maximize the utilization of resources, and improve policy performance. Predictive governance is a foresight-driven model to act now with real-time data streams.⁵

Lazaro and Rizzi (2022) envision predictive governance as a sociotechnical imaginary whereby networks of algorithms make the future "knowable" in the here and now and orchestrate anticipatory action based on the imperatives of precaution, pre-emption, and preparedness.⁶ This anticipatory type of reasoning enables governments to regulate risks ahead of time—economic, environmental, or social—in terms of embracing prediction in administrative and legal mechanisms.⁷

Practically speaking, predictive governance brings into existence "data-driven government," as data-driven mechanisms scrutinize large data administration datasets to determine meaningful intelligence, anticipate policy outcomes, and optimize performance in delivering services.⁸ As a case point, the Indian Predictive and Prescriptive Governance approach is claimed to highlight its significance in providing automated services and allowing for simulations against integrated interdepartmental data.⁹

However, predictive governance is not a purely technical issue. It reshapes state-citizen relations by converting reactive administration to proactive administration. It poses substantial issues of transparency, accountability, and risk of algorithmic bias, particularly where AI-driven decision-making impacts individual rights without human intervention.¹⁰ The "automated state," in the phraseology of Engstrom (2024), erodes democratic legitimacy unless based on sound legal protection and ethical design principles.

2.1. Public Administration Rationality vs. Techno-Governance

Public administration rationality has traditionally been rooted in Weberian bureaucratic principles, characterized by hierarchical structure, rule-based process, merit-based personnel, and legally rational rule. In this classical understanding, public administration is seen as an extension of human rationality to a rational pursuit of efficiency, legality, and legitimacy. But researchers are cautioning that reducing

⁵ E. P. Basanta Thapa, „Predictive Analytics and AI in Governance: Data-driven government in a free society. Artificial intelligence, big data and algorithmic decision making in government from a liberal perspective”, *The European Liberal Forum* (ELF), 2019, https://liberalforum.eu/wp-content/uploads/2021/07/PUBLICATION_AI-in-e-governance.pdf.

⁶ Christophe Lazaro, Marco Rizzi, *op. cit.*, p. 75.

⁷ Robert Kingsley, „Cognitive AI Frameworks for Predictive and Prescriptive Data Governance in Large-Scale Information Systems”. *QIT Press - International Journal of Data Science* (QITP-IJDS), 2025, 5(1), 6–11, https://qitpress.com/articles/QITP-IJDS/VOLUME_5_ISSUE_1/QITP-IJDS_05_01_002.pdf.

⁸ Basanta E. P. Thapa, *op. cit.*, p. 8.

⁹ K. Misra Santosh, John Philip Dibu, *Predictive and prescriptive governance- improved delivery of government services*, https://aiforgood2019.github.io/papers/IJCAI19-AI4SG_paper_10.pdf.

¹⁰ David Freeman Engstrom, „The Automated State: A Realist’s View”, *George Washington Law Review*, 2024, Volume 92, Issue 6, pp. 1437-1472, p. 1438.

rationality to bare instrumental or technical efficacy poses a threat to eradicating other values such as democratic control, equity, and public responsibility.¹¹

The Neo-Weberian State (NWS) model maintains the Weberian legal-bureaucratic tradition but reimagines it for the present age of governance in terms of the inclusion of professionalism, citizenship orientation, and results. It assumes path dependency (historical institutionalism) but makes modernization a variable of digital tools and management efficiency.¹²

NWS combines input legitimacy (procedure, law) with output legitimacy (output and public value), proposing an integration with public value theory to support democratic purpose without compromising institutional order.¹³

In contrast, techno-governance — or data-driven, algorithmic, digital, and predominant governance — produces a technocratic reason informed by scientific know-how, simulated prediction, and performance measurement. For example, Denmark's job centres utilize data analysis and evidence-based policymaking not to decentralize control but to mobilize control through technical means. This change is marked by a wish to rule through metrics, where digital infrastructures insist on compliance and optimize output, often at the expense of democratic deliberation.¹⁴

In this system, the state is less of a sovereign regulator and more of a meta-governor, who steers disintegrated actors and employs hybrid tools such as public-private partnerships and algorithmic steering tools.¹⁵

The conceptual struggle between the rationality of techno-government and that of public administration concerns instrumental logic and normative values. While bureaucratic rationality is concerned with legal legitimacy and moral stewardship, techno-governance is inclined towards performance, predictability and optimization. The paradigm gap can be bridged by hybrid models that inject transparency, human judgment and moral reasoning into digital governance mechanisms.

3. Legal and Ethical Challenges

One of the largest legal and moral considerations involved with government use of artificial intelligence relates to algorithmic opacity and explainability. The new AI technology — particularly the ones that deploy high-level models such as deep neural networks — is to a considerable extent incapable of providing explanations for

¹¹ Petra Schreurs, „Symposium: Rationality and public administration: Introduction.” *Administrative Theory & Praxis*, 2002, 24(2), 279–286. <https://doi.org/10.1080/10841806.2002.11029363>.

¹² Sorin Dan, *Theoretical approaches to measuring governance: Public administration*. In Peter Triantafyllou & Jenny M. Lewis (eds.), *Handbook on Measuring Governance*. Edward Elgar Publishing, 2024, pp. 80–95, p. 82, <https://doi.org/10.4337/9781802200645.00014>.

¹³ Edoardo Ongaro, „Integrating the neo-Weberian state and public value”, *International Review of Administrative Sciences*, 2024, 90(4), 830–844. <https://doi.org/10.1177/00208523241228830>

¹⁴ Niklas Andreas Andersen, 2020. “The Technocratic Rationality of Governance - the Case of the Danish Employment Services.” *Critical Policy Studies* 15 (4): 425–43. doi:10.1080/19460171.2020.1866629.

¹⁵ B. Guy Peters, John Pierre, „Governance Without Government? Rethinking Public Administration”, *Journal of Public Administration Research and Theory*, Volume 8, Issue 2, April 1998, pp. 223–243, <https://doi.org/10.1093/oxfordjournals.jpart.a024379>.

its outputs in terms that can be understood or made transparent.

This "black box" nature gravely undermines core democratic principles. Even with the general adoption of responsible AI best practices, there remains a significant gap between general ethical principles at the leadership level and actual governance practices necessary to apply them across the AI life cycle. The challenge of comprehending, auditing, or disputing algorithmic determinations is especially ill-forged where these systems are installed in environments with high risks like policing, healthcare, or welfare distribution, where the affected individuals lack technological sophistication or exposure to seek compensation or appeal.¹⁶

Another issue is the growing general resentment against mass surveillance and data misuse. Predictive analytics, facial monitoring and mass data aggregation techniques used by public authorities provide tools for population-scale monitoring.

However, they are embedded in fragmented regulatory systems. The lack of explicit data protection policies, especially outside the EU, creates space for misuse, unauthorized profiling, or discriminatory targeting. As artificial intelligence systems learn from massive databases of personal data, much of which has been collected without express consent, there is a real threat of overwriting privacy rights and disintegrating civil liberties.¹⁷

Besides, with the increasing application of automation in administrative processes, procedural protection and traditional legal protection weaken. AI systems applied to decision-making roles can circumvent procedural rights guaranteed under constitutional or administrative law frameworks, such as the right to be heard, the right to appeal, or individualized reasoning as a necessity.

Papagiannidis et al. are accurate that AI responsible governance must involve relational and procedural measures, and not structural design only, so that citizens will enjoy legal assurances even in computerized bureaucratic governance.¹⁸ For urban administration, Lartey and Law (2025) are clear that while AI has been proven to hold potential for optimization and efficiency in planning and service provision, the process is implemented with insufficient regard for equity, transparency, and inclusive engagement. This disconnect between technological potential and legal foundation threatens to establish a new digital divide where algorithmic decisions are, in effect, authoritative but evasive of democratic or judicial oversight.¹⁹

Another consequence of such automation is the diminution of human judgment. AI systems are increasingly being invoked on the basis of maximizing efficiency, most often replacing an activity that was originally the province of human judgment,

¹⁶ Emmanouil Papagiannidis, Patrick Mikalef, Kieran Conboy, „Responsible artificial intelligence governance: A review and research framework”. *Journal of Strategic Information Systems*, 2025, vol. 34, issue 2, 101885, pp. 5-6, <https://doi.org/10.1016/j.jsis.2024.101885>.

¹⁷ Anca Florentina Vatamanu and Mihaela Tofan. 2025. "Integrating Artificial Intelligence into Public Administration: Challenges and Vulnerabilities" *Administrative Sciences* 15, no. 4: 149. <https://doi.org/10.3390/admsci15040149>.

¹⁸ Emmanouil Papagiannidis, Patrick Mikalef, Kieran Conboy, *op.cit.*, pp. 5-6.

¹⁹ Desmond Lartey, Kris M.Y. Law, „Artificial intelligence adoption in urban planning governance: A systematic review of advancements in decision-making, and policy making”, *Landscape and Urban Planning*, 2025, vol. 258, 105337. <https://doi.org/10.1016/j.landurbplan.2025.105337>.

contextual considerations or ethical judgment.

Civil servants, especially non-managerial staff, oppose the adoption of IA when it affects roles involving interpersonal judgment or discretion. Public sector employees would welcome AI working in an advisory or assistant capacity rather than taking on a decision-making role. A second consequence of this automation is the gradual erosion of human discretion and authority.²⁰

This conflict is perhaps most evident in spheres such as healthcare, education and social care, where citizens reasonably expect to be treated not as objects of data protection, but as individuals with their circumstances deserving of respect and attention.

From design to deployment, AI systems must be built with enforceable safeguards for transparency, accountability, and human agency. The development of regulatory standards, legal redress mechanisms, and public oversight institutions is critical to ensure that technological innovation in governance does not come at the cost of fundamental rights and democratic legitimacy.

4. AI in Public Administration: Benefits and Opportunities

The application of artificial intelligence (AI) in public administration has influenced increased efficiency, reduced workload and improved service delivery to citizens. One of the fronts of this revolution is the automation of administrative processes that used to consume much of the public sector's time and resources.

Artificial intelligence technologies - *robotic process automation (RPA)*, *natural language processing (NLP)*, and *machine learning (ML)* - are increasingly being used to automate simple tasks such as data entry, claims processing, payroll administration, and document validation.²¹ These uses reduce processing errors and free up human resources to work on strategy and analysis.

The use of AI by central government organizations has significantly improved management efficiency. Automation has reduced the average processing time for citizen requests from seven days to two days, demonstrating not only improved productivity but also service responsiveness.²²

From a strategic point of view, AI doesn't replicate human behaviour - it enhances decision-making by searching through enormous amounts of real-time data. Automation not only speeds up but also improves analytics in administrative decisions. Chatbots, for example, provide 24/7 assistance, while AI-based systems facilitate

²⁰ Tessa Haesevoets, Bram Verschuere, Arne Roets, „AI adoption in public administration: Perspectives of public sector managers and public sector non-managerial employees”. *Government Information Quarterly*, 2025, 42, 102029. <https://doi.org/10.1016/j.giq.2025.102029>.

²¹ Adewumi Sunday Adepoju, „Transforming administrative functions through AI: Strategic planning, task automation, and resource optimization”, *International Journal of Research Publication and Reviews*, 2025, 6(1), pp. 4300–4316. <https://doi.org/10.55248/gengpi.6.0125.0622>.

²² Alla Bashuk, Oleh Chechel. 2024. “Optimization of Management Processes in Central Government Bodies through the Integration of Artificial Intelligence”. *Eastern-European Journal of Enterprise Technologies* 6 (13 (132):98-105. <https://doi.org/10.15587/1729-4061.2024.318018>.

evidence-based policymaking and performance monitoring.²³

In the case of Russia, where AI has enabled the simplification of standardized decision-making procedures in managerial work, the reliance on human control for repetitive tasks has been reduced by automating them.²⁴

Despite all these advances, automation also creates a demand for highly skilled human labour to manage AI interfaces and interpret their results. The success of automation depends not only on technologies but also on parallel investments in data quality, cybersecurity infrastructure, and human capital development.²⁵

4.1. Enhancing Efficiency and Reducing Human Error

The use of artificial intelligence (AI) in public administration is centered on the twin imperatives of improving operational performance and eliminating human error - two perennial challenges of bureaucratic systems.

AI-driven automation increases administrative efficiency through channels such as dynamic task reprioritization, automated document management, and virtual assistants that respond to internal as well as citizen requests. By reducing manual typing and implementing natural language processing (NLP) for sorting and sending emails, companies reduce repetitive administrative errors and free up human resources for strategic judgment. These are not only operational but also structural gains, as automation eliminates the cascading effect of human errors from one department to another.²⁶

Predictive analytics also improves AI's ability to reduce errors. By applying AI predictive analytics to predict machine breakdowns, smooth traffic flow and predict health trend patterns, public authorities not only predict operational failures, but also reduce the room for errors in judgment.²⁷

In areas such as education and public safety, artificial intelligence models have already demonstrated their ability to outperform traditional means by being able to detect at-risk areas or students at risk of dropping out of school, facilitating earlier and more effective interventions.

The broader digital revolution, fuelled by the so-called Revolution 5.0 supports this thesis. With the integration of artificial intelligence, big data and IoT technology

²³ Showkat Ahmad Dar, „Unleashing the power of artificial intelligence and automation in public administration”, *Journal of Public Administration Research*, 2024, 1(1), 1–13. <https://doi.org/10.32996/jpar.2024.1.1.1>.

²⁴ M. K. Izmaylov, *Artificial intelligence for optimized routine administrative tasks: Opportunities, challenges and prospects*. Perm University Herald. Economy, 2024, 19(4), 395–408. <https://doi.org/10.17072/1994-9960-2024-4-395-408>.

²⁵ Alla Bashuk, Oleh Chechel. *op. cit.*, p.101.

²⁶ Deepak Kumar, „AI-driven automation in administrative processes: Enhancing efficiency and accuracy”, *International Journal of Engineering Science and Humanities*, 2024, Special Issue (1), 256–265, <https://doi.org/10.62904/qg004437>.

²⁷ Rachid Ejjami, „Public Administration 5.0: Enhancing governance and public services with smart technologies”. *International Journal for Multidisciplinary Research (IJFMR)*, 2024, 6(4), 1–14. <https://doi.org/10.36948/ijfmr.2024.v06i04.26086>.

facilitating the experience of faster, more individualized and comprehensive public services, delays and human error have been significantly reduced through automation and easier access to health, education and social care services through one-stop-shop digital portals. However, they recommend overcoming differences in digital infrastructure and digital literacy to prevent widening disparities between cities and countries.²⁸

However, efficiency gains need to be accompanied by appropriate oversight structures, especially in AI-supported decision-making. At the macro and meso levels of governance, the implementation of AI introduces complex webs of actors that require not only technological coordination but also administrative legitimacy and procedural transparency.²⁹

4.2. Comparative Examples

The means, purpose, and method of AI adoption are significantly disparate across different national conditions and levels of governance, based on contrasting institutional capacities, strategic priorities, and cultural biases.

In a comparative case study of eight Swiss public organizations, Neumann, Guirguis, and Steiner (2024) found that the adoption of AI is highly dependent on internal technological maturity and management support. Their findings show that early adopters of AI focus on infrastructure and interoperability, while more developed ones focus on scaling and learning institutions. To their surprise, environmental factors such as national politics or public pressure had less impact in Switzerland compared to internal organizational dynamics.³⁰

Finland offers another model through its project, AuroraAI, which aims to provide tailored and anticipatory public services in life events (e.g. education, health, work). Transparency, human oversight, and explainability have been instilled within the government's AI environment, which uses blockchain to provide audit trails and AI-ledgers that provide transparency to citizens on algorithmic outcomes.³¹

In Estonia, a highly digitized public administration in the world, artificial intelligence has been applied to various functions such as chatbots for e-government, automated preparation of legal documents, and predictive analytics for social services.

²⁸ Isra Muksin, Mansyur Djamal, Jacky Chin, Yunus Arifien, „The Impact of Revolution 5.0 on Digital Government and Public Service Efficiency”. *Nomico*, 1(11), 30-40. <https://doi.org/10.62872/e0tesm59>.

²⁹ J Ignacio Criado, Rodrigo Sandoval-Almazán, J Ramon Gil-Garcia (2024). „Artificial intelligence and public administration: Understanding actors, governance, and policy from micro, meso, and macro perspectives”. *Public Policy and Administration*, 40(2), 173-184. <https://doi.org/10.1177/09520767241272921>.

³⁰ Oliver Neumann, Katharina Guirguis, Reto Steiner. 2022. “Exploring Artificial Intelligence Adoption in Public Organizations: A Comparative Case Study.” *Public Management Review* 26 (1): 114–41. doi: 10.1080/14719037.2022.2048685.

³¹ Sorin Dan, Johanna Kalliokoski, Khuram Shahzad, *Trust in public sector AI: The case of Finland's AuroraAI program*, in Paliszkievicz, J., & Gołuchowski, J. (Eds.). (2024). *Trust and Artificial Intelligence: Development and Application of AI Technology* (1st ed.). Routledge. <https://doi.org/10.4324/978103267236>.

Estonia's X-Road platform enables secure and interoperable information exchange between agencies and forms the basis of its AI-powered administration. Estonia and Japan are among the first countries to implement Revolution 5.0.³²

The Netherlands, Germany and Denmark in public administration emphasize internal capacity building, ethical standards and cross-sector cooperation. For example, the Netherlands has supported 'human-centered AI' pilots in local government, while Germany's strategy includes public sector AI sandboxes for safe testing and citizen involvement in the design process.³³

In Spain and Latin America, AI initiatives always start at the municipal or regional level, where process automation and service optimization are prioritized. At the micro level, AI is used by public employees in their work, including scheduling, document management and communication, while at the meso and macro levels, larger governance structures react to issues of control, inter-agency coordination and e-inclusion.³⁴

In India, use of AI-based automation for document management, predictive analytics and biometric identification in municipal governments. These technologies have reduced processing delays, increased data accuracy, and facilitated improved targeting of welfare programs. Insufficient infrastructure and poor data quality remain challenges.³⁵

This comparative perspective shows that artificial intelligence is not a one-size-fits-all tool, but an adaptable one, shaped by the institutional framework, governance priorities and technological readiness.

5. Towards Transparent and Accountable Predictive Governance

As governments increasingly adopted artificial intelligence and data-driven technology, a new style of governance—predictive governance—came into being. It aims to maximize administrative efficiency by using algorithms to predict requirements, allocate resources, and shape policy choices. But the closed nature of these systems, loss of human review, and specter of programmed bias raise deep questions of democratic accountability and civic freedoms. Shifting towards transparent and accountable predictive governance requires not only technological safeguarding but also robust legal frameworks that ensure fairness, explainability, and public trust in algorithmic decision-making.

A core normative principle is democratic legitimacy, which requires that AI-based governance systems are based on values such as openness, accountability and participation. Effective governance needs to be holistic, focusing not only on procedural fairness in the decision-making process in support of AI, but also on ensuring an

³² Isra Muksin, Mansyur Djamal, Jacky Chin, Yunus Arifien, *op. cit.*, p. 36.

³³ Colin van Noordt, Rony Medaglia, Luca Tangi. (2023). „Policy initiatives for Artificial Intelligence-enabled government: An analysis of national strategies in Europe”. *Public Policy and Administration*, 40(2), 215-253. <https://doi.org/10.1177/09520767231198411>

³⁴ J Ignacio Criado, Rodrigo Sandoval-Almazán, J Ramon Gil-Garcia, *op. cit.*, p. 176.

³⁵ Deepak Kumar, *op. cit.*, p. 260.

equitable distribution of the benefits and costs of AI between and within societies.³⁶

Another fundamental requirement is ethical alignment, based on values such as human dignity, equity and sustainability across the entire AI lifecycle, from design and development to deployment and monitoring. It is based on the theory of design and action, allowing regulation to follow the development of technology and remain consistent with core societal values.

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Regulatory requirements also include overall consistency and flexibility. AI regulation should take into account the cross-border effects of technology, but be sensitive to national legislation and culture. Comparing regulatory frameworks in the EU, the US and China, the EU's risk-based AI law brings legal certainty and public confidence, it also imposes compliance burdens. In contrast, America's flexible sectoral system promotes innovation but risks regulatory fragmentation and uncertainty. Therefore, there needs to be a balanced regime that balances competing national regimes to reduce regulatory asymmetries while promoting transnational cooperation.³⁷

Responsibility and accountability are also key to fair regulation of AI. With the increasing involvement of AI systems in tasks that were previously the domain of humans, there are concerns about legal liability if things go wrong. The challenge of apportioning responsibility in distributed automated systems requires a shared responsibility framework, where regulators, designers and users share a certain share of responsibility. These models need to be incorporated into legislation so that there are no liability gaps and citizens' rights are preserved.³⁸

Finally, stakeholder inclusion and participation must be ensured so that governance systems reflect multiple voices. The legitimacy of AI governance relies on the ability to mobilize affected people, especially those exposed to algorithmic discrimination, to participate in rulemaking.³⁹

6. Methodology

The research is based on a qualitative and comparative approach, based on a systematic review of peer-reviewed articles accessed from Scopus and Web of Science.

³⁶ Eva Erman and Furendal, Markus. "The Global Governance of Artificial Intelligence: Some Normative Concerns" *Moral Philosophy and Politics* 9, no. 2 (2022): 267-291. <https://doi.org/10.1515/mopp-2020-0046>.

³⁷ Kristjan Prenga, „AI regulation in the EU, the US and China: An NLP quantitative and qualitative lexical analysis of the official documents”, *Journal of Ethics and Legal Technologies*, Volume 6(2), December 2024, pp. 131-161, <https://jelt.padovauniversitypress.it/system/files/papers/JELT-2024-2-7.pdf>.

³⁸ Patricia Gomes Rêgo de Almeida, Carlos Denner dos Santos & Josivania Silva Farias, „Artificial Intelligence Regulation: a framework for governance”. *Ethics and Information Technology* vol. 23, 2021: 505–525 (2021). <https://doi.org/10.1007/s10676-021-09593-z>.

³⁹ Eva Erman and Furendal, Markus, *op. cit.*, p. 270.

These were selected because they extensively cover high-quality peer-reviewed journals in fields related to artificial intelligence (AI), public administration, governance, law and ethics.

The research terms include:

- *("artificial intelligence" OR "AI") AND ("public administration" OR "government services") AND ("efficiency" OR "productivity") AND ("human error" OR "error reduction" OR "accuracy")*
- *("artificial intelligence" OR "AI") AND ("public administration" OR "government services") AND ("automation" OR "automating tasks" OR "routine tasks") AND ("efficiency" OR "benefits" OR "opportunities")*
- *("bureaucratic rationality" OR "public administration rationality") AND ("techno-governance" OR "algorithmic governance") AND ("theoretical perspective" OR "conceptual framework")*
- *("artificial intelligence" OR "AI") AND ("ethics" OR "ethical principles") AND ("algorithmic governance") AND ("theory" OR "conceptual framework")*

To maintain the timeliness of findings, the search was limited to publications from 2018-2025 that reflect the most current academic and policy debates on AI adoption in government institutions. Articles published in peer-reviewed journals were preferred, but conference papers and authoritative white papers were also included if they were highly cited or published by reputable institutions.

The screening standards focused on literature addressing normative, institutional, and technical questions of AI in public administration—primarily those examining automation, decision-making, reduction of human errors, transparency, and accountability. Sources were evaluated in terms of conceptual relevance, methodology, and relevance to the research core themes.

7. Results

The findings of this study reveal a dynamic but splintered landscape of AI adoption in public administration. The results show that while AI possesses transformative potential to improve administrative effectiveness and restrict human error, it also involves new complexity, risk, and normative tension.

Comparative critique of techno-governance models and public administration rationality implies that the traditional Weberian bureaucratic model is still predominant. This conflict is particularly felt in scenarios involving the introduction of AI systems to decision-making. While techno-governance derives advantages of policy flexibility and working effectiveness, it may compromise necessary administrative values such as procedural justice, transparency, and human discretion. The findings support a developing scholarly consensus that hybrid governance models are needed—models that juxtapose legal-rational legitimacy and algorithmic efficiency while finding a balance between innovation and democratic accountability.

The research identifies a series of ethical and law issues resulting from AI integration. They involve algorithmic opaqueness, risks of mass surveillance, destruction of procedural protection, and denial of human judgment. Opaqueness in AI

systems undermine openness and limits citizens' ability to recognize or resist computerized decisions. Abuse of information and surveillance issues add to the complexity of trust in online government.

Evidence indicates that AI automation is already yielding concrete benefits in most administrative contexts. Implementing robotic process automation (RPA), natural language processing (NLP), and machine learning (ML) has automated manual processes like document processing, data input, and citizen inquiries. From various nations' examples, there is proof on how AI truncates processing duration, improves the provision of service, and amplifies administrative accuracy.

But these advances are contingent upon the availability of competent human resources, strong infrastructure, and moral implementation models. The contribution of AI to the reduction of errors and the quality of decision-making is optimized where it is supplemented by human monitoring, governance mechanisms, and ongoing human development.

Effective governance must embrace ethical considerations throughout the life cycle of AI and develop frameworks for stakeholder engagement, legal redress and global coordination.

In other words, only if IA is accompanied by prudent regulatory design, institutional reforms and normative vigilance does it have the transformative power to effectively change public administration. A middle way is not just desirable - in fact, it is inevitable if digital innovation is to underpin rather than undermine the pillars of democratic governance.

8. Conclusion

Artificial intelligence systems have proven impressive in improving bureaucratic efficiency by digitizing current activities and avoiding procedural delays. Through automation, as well as data analytics, administrative institutions are now able to provide more responsive and streamlined services, thus remedying long-standing inefficiencies embedded in traditional governance mechanisms.

However, this technological progress has important institutional and normative implications. The transformation from bureaucratic rationality to techno-government entails risks of algorithmic opacity, diminishing legal safeguards and the erosion of human decision-making in discretionary decisions. These transformations introduce central concerns about transparency, democratic accountability and the protection of citizens' rights in algorithmic administrative decision-making.

The relative analysis in this study suggests striking a balance between the promises of AI and the fundamental values of public administration, which requires the adoption of hybrid models of governance. These models must reconcile technological development with public law values such as legality, equity and participation. Moreover, national legislative systems that differ from citizen-led and ethically guided to efficiency-oriented implementations suggest that institutional maturity, governance culture and policy-oriented strategy demarcate the pathways for AI implementation. Only a normatively grounded and context-sensitive strategy can enable AI to become a

force to help restore public service in the digital age.

Bibliography

1. Adepoju, Adewumi Sunday, „Transforming administrative functions through AI: Strategic planning, task automation, and resource optimization”, *International Journal of Research Publication and Reviews*, 2025, 6(1), pp. 4300–4316. <https://doi.org/10.55248/gengpi.6.0125.0622>.
2. Almeida, Patricia Gomes Rêgo de, Carlos Denner dos Santos & Josivania Silva Farias, „Artificial Intelligence Regulation: a framework for governance”. *Ethics and Information Technology* vol. 23, 2021: 505–525 (2021). <https://doi.org/10.1007/s10676-021-09593-z>.
3. Andersen, Niklas Andreas, 2020. “The Technocratic Rationality of Governance - the Case of the Danish Employment Services.” *Critical Policy Studies* 15 (4): 425–43. doi:10.1080/19460171.2020.1866629.
4. Bashuk, Alla & Oleh Chechel. 2024. “Optimization of Management Processes in Central Government Bodies through the Integration of Artificial Intelligence”. *Eastern-European Journal of Enterprise Technologies* 6 (13(132):98-105. <https://doi.org/10.15587/1729-4061.2024.318018>.
5. Criado, J Ignacio, Rodrigo Sandoval-Almazán & J Ramon Gil-Garcia (2024). „Artificial intelligence and public administration: Understanding actors, governance, and policy from micro, meso, and macro perspectives”. *Public Policy and Administration*, 40(2), 173-184. <https://doi.org/10.1177/09520767241272921>.
6. Dan, Sorin, Johanna Kalliokoski & Khuram Shahzad, *Trust in public sector AI: The case of Finland's AuroraAI program*, in Paliszkievicz, J., & Gołuchowski, J. (Eds.). (2024). *Trust and Artificial Intelligence: Development and Application of AI Technology* (1st ed.). Routledge. <https://doi.org/10.4324/9781032627236>.
7. Dan, Sorin, *Theoretical approaches to measuring governance: Public administration*. In Peter Triantafyllou & Jenny M. Lewis (eds.), *Handbook on Measuring Governance*. Edward Elgar Publishing. 2024, pp. 80–95, <https://doi.org/10.4337/9781802200645.00014>.
8. Dar, Showkat Ahmad, „Unleashing the power of artificial intelligence and automation in public administration”, *Journal of Public Administration Research*, 2024, 1(1), 1–13. <https://doi.org/10.32996/jpar.2024.1.1.1>.
9. Ejjami, Rachid, „Public Administration 5.0: Enhancing governance and public services with smart technologies”. *International Journal for Multidisciplinary Research (IJFMR)*, 2024, 6(4), 1–14. <https://doi.org/10.36948/ijfmr.2024.v06i04.26086>.
10. Engstrom, David Freeman, „The Automated State: A Realist's View”, *George Washington Law Review*, 2024, Volume 92, Issue 6, pp. 1437-1472.
11. Erman, Eva and Furendal, Markus. "The Global Governance of Artificial Intelligence: Some Normative Concerns" *Moral Philosophy and Politics* 9, no. 2 (2022): 267-291. <https://doi.org/10.1515/mopp-2020-0046>.
12. Haesevoets, Tessa, Bram Verschuere & Arne Roets, „AI adoption in public administration: Perspectives of public sector managers and public sector non-managerial employees”. *Government Information Quarterly*, 2025, 42, 102029. <https://doi.org/10.1016/j.giq.2025.102029>.
13. Izmaylov, M. K., *Artificial intelligence for optimized routine administrative tasks: Opportunities, challenges and prospects*. Perm University Herald. Economy, 2024,

- 19(4), 395–408. <https://doi.org/10.17072/1994-9960-2024-4-395-408>.
14. Kingsley, Robert, „Cognitive AI Frameworks for Predictive and Prescriptive Data Governance in Large-Scale Information Systems”. *QIT Press - International Journal of Data Science* (QITP-IJDS), 2025, 5(1), 6–11, https://qitpress.com/articles/QITP-IJDS/VOLUME_5_ISSUE_1/QITP-IJDS_05_01_002.pdf.
 15. Kumar, Deepak, „AI-driven automation in administrative processes: Enhancing efficiency and accuracy”, *International Journal of Engineering Science and Humanities*, 2024, Special Issue (1), 256–265, <https://doi.org/10.62904/qg004437>.
 16. Lartey, Desmond & Kris M.Y. Law, „Artificial intelligence adoption in urban planning governance: A systematic review of advancements in decision-making, and policy making”, *Landscape and Urban Planning*, 2025, vol. 258, 105337. <https://doi.org/10.1016/j.landurbplan.2025.105337>.
 17. Lazaro, Christophe & Marco Rizzi, „Predictive analytics and governance: a new sociotechnical imaginary for uncertain futures”, *International Journal of Law in Context*, Vol. 19, Issue 1, 2023, pp. 70-90, Doi: 10.1017/S1744552322000477.
 18. Muksin, Isra, Mansyur Djamal, Jacky Chin & Yunus Arifien, „The Impact of Revolution 5.0 on Digital Government and Public Service Efficiency”. *Nomico*, 1(11), 30–40. <https://doi.org/10.62872/e0tesm59>.
 19. Neumann, Oliver, Katharina Guirguis & Reto Steiner. 2022. “Exploring Artificial Intelligence Adoption in Public Organizations: A Comparative Case Study.” *Public Management Review* 26 (1): 114–41. doi: 10.1080/14719037.2022.2048685.
 20. Noordt, Colin van, Rony Medaglia & Luca Tangi. (2023). „Policy initiatives for Artificial Intelligence-enabled government: An analysis of national strategies in Europe”. *Public Policy and Administration*, 40(2), 215-253. <https://doi.org/10.1177/09520767231198411>.
 21. Ongaro, Edoardo, „Integrating the neo-Weberian state and public value”, *International Review of Administrative Sciences*, 2024, 90(4), 830–844. <https://doi.org/10.1177/00208523241228830>.
 22. Papagiannidis, Emmanouil, Patrick Mikalef & Kieran Conboy, „Responsible artificial intelligence governance: A review and research framework”. *Journal of Strategic Information Systems*, 2025, vol. 34, issue 2, 101885, pp. 5-6, <https://doi.org/10.1016/j.jsis.2024.101885>.
 23. Peters, B. Guy & John Pierre, „Governance Without Government? Rethinking Public Administration”, *Journal of Public Administration Research and Theory*, Volume 8, Issue 2, April 1998, pp. 223–243, <https://doi.org/10.1093/oxfordjournals.jpart.a024379>.
 24. Prenga, Kristjan, „AI regulation in the EU, the US and China: An NLP quantitative and qualitative lexical analysis of the official documents”, *Journal of Ethics and Legal Technologies*, Volume 6(2), December 2024, pp. 131-161, <https://jelt.padovauniversitypress.it/system/files/papers/JELT-2024-2-7.pdf>.
 25. Santosh, K. Misra & John Philip Dibu, *Predictive and prescriptive governance-improved delivery of government services*, https://aiforgood2019.github.io/papers/IJC-AI19-AI4SG_paper_10.pdf.
 26. Schreurs, Petra, „Symposium: Rationality and public administration: Introduction.” *Administrative Theory & Praxis*, 2002, 24(2), 279–286. <https://doi.org/10.1080/10841806.2002.11029363>.
 27. Thapa, E. P. Basanta, „Predictive Analytics and AI in Governance: Data-driven government in a free society. Artificial intelligence, big data and algorithmic decision

- making in government from a liberal perspective”, *The European Liberal Forum* (ELF), 2019, https://liberalforum.eu/wp-content/uploads/2021/07/PUBLICATION_AI-in-e-governance.pdf.
28. Vatamanu, Anca Florentina and Mihaela Tofan. 2025. "Integrating Artificial Intelligence into Public Administration: Challenges and Vulnerabilities" *Administrative Sciences* 15, no. 4: 149. <https://doi.org/10.3390/admsci15040149>.