# THE USE OF ARTIFICIAL INTELLIGENCE IN THE PUBLIC SECTOR AND GOVERNMENT INSTITUTIONS

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**Abstract**

This chapter presents an analysis of Artificial Intelligence (AI) applications in the public sector and government institutions. It assesses the transformative potential of AI technologies across various government functions and examines related governance challenges through a systematic analysis of academic literature, policy frameworks and practical examples. The application of computational approaches to government functions predates the contemporary AI paradigm by decades. The first examples of "smart" systems in public administration were developed in the 1980s and 1990s through rule-based expert systems designed to systematize administrative decision-making. The shift from rule-based to learning-based systems is not merely a technical change. Today, the use of AI in the public sector and government institutions is defined by the development of Machine Learning (ML), particularly Deep Learning (DL), which enables systems to detect patterns and make predictions without the need for specific rules. The analysis reveals that while AI offers significant opportunities to improve public service delivery, operational efficiency and policy analytics, these benefits depend on addressing fundamental governance imperatives such as algorithmic fairness, transparency, accountability and institutional capacity building. However, realizing this potential while maintaining a commitment to democratic values requires thoughtful governance approaches that address both technical and institutional dimensions. The most effective applications will be those that align technological innovation with core public values, enhancing government capacity while maintaining fundamental commitments to equity, justice and democratic oversight.

***Keywords***

*Artificial Intelligence, Public Administration, Algorithmic Governance, Digital Transformation, AI Ethics*

## Introduction

The digital transformation has created a defining feature of public administration in the 21st century. The ways in which citizens interact with government agencies and public services have been reshaped as a result. The advancement of Artificial Intelligence (AI), in particular, influences service provision and internal government functions. Recent breakthroughs in Machine Learning (ML), increases in computational power and the growing availability of data have enabled AI to address long-standing public sector challenges. However, these changes also prompt new governance and accountability concerns.

Government institutions have to navigate persistent pressures-including limited resources, an increasing demand for social services and greater expectations from citizens inspired by digital innovations in the private sector. Policymakers also face complex issues such as climate change and health crises, which frequently defy conventional solutions. Within this context, AI offers promising avenues for improving governmental work efficiency and effectiveness.

An in-depth analysis of the historical development, practical applications, ongoing challenges and future directions of AI in the public sector is presented. Both the potential and the limitations of AI are weighed carefully. Insights from computer science, public administration, political science and legal scholarship inform governance approaches.

The chapter is organized as follows: Section 1 describes the historical evolution and driving forces behind AI integration in the public sector and government institutions. Section 2 explores practical use cases across domains such as service delivery, policy analysis, resource management and regulation. Section 3 examines key implementation challenges, including governance, ethics and institutional capacity. Section 4 introduces a framework for responsible AI use in the public sector and government institutions. The conclusion summarizes the main findings and identifies directions for further research.

## 1. The Evolutionary Trajectory of AI in the Public Sector and Government

AI in the public sector and government institutions has developed in stages, shaped by available technology, how institutions operate and how AI has been used. Understanding this history helps explain current trends and what could come next.

### *1.1. From Automation to Augmentation*

The application of computational approaches to governmental functions predates the contemporary AI paradigm by several decades. Early iterations of "intelligent" systems in public administration emerged in the 1980s and 1990s through rule-based

expert systems designed to systematize administrative decision-making processes. These systems, characterized by explicitly programmed logical rules rather than learning capabilities, found application in domains such as tax administration, benefits determination and regulatory compliance (Desouza, 2018). A notable example is Denmark's Central Customs and Tax Administration, which implemented a rule-based system that improved decision consistency and clarified interpretations of complex tax policies (Margetts & Dunleavy, 2013).

Subsequent advances in statistical and probabilistic modeling allowed for more nuanced analytical applications, though still requiring substantial human involvement in creating and refining models. Techniques such as regression analysis and classification algorithms facilitated uses in fraud detection, resource distribution and risk assessment. For instance, the Internal Revenue Service in the United States deployed discriminant function analysis to identify tax returns with high audit potential, thereby optimizing the allocation of limited investigative resources (Brynjolfsson & McAfee, 2017).

Today, AI in the public sector and government institutions is defined by the growth of ML, particularly Deep Learning (DL), which allows systems to find patterns and make predictions without needing specific rules. Shifting from rule-based to learning-based systems is not just a technical change. It also changes how technology and human expertise interact in the public sector and government institutions. Modern AI systems can now:

- Prediction and classification based on complex, multidimensional datasets
- Natural language processing that facilitates human-computer interaction through ordinary language
- Computer vision that enables the analysis of visual information in administrative contexts
- Reinforcement learning that permits adaptive optimization of processes based on feedback

This transition from automation to augmentation represents a major shift in how the government views AI. The focus has shifted from systems that follow set procedures to technologies that help and expand what people can do in administrative work (Janssen & Kuk, 2016).

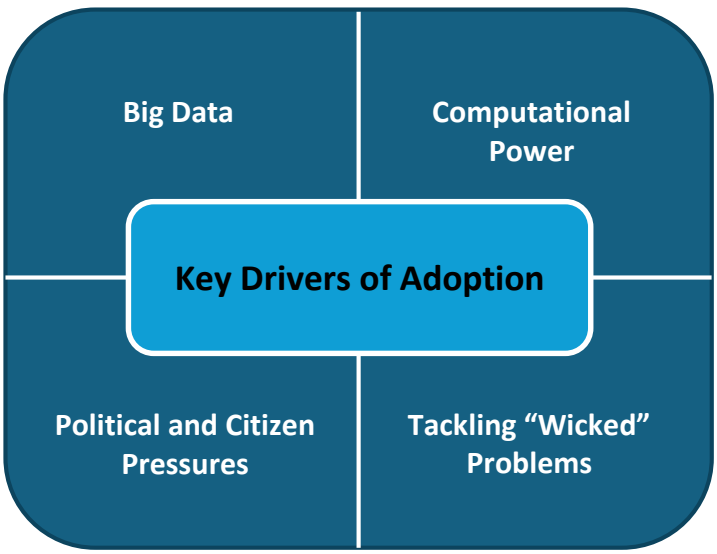
The Estonian government's AI strategy clearly states this view, describing AI as a tool that enhances public servants' ability to concentrate on tasks requiring human skills such as empathy, ethical decision-making and complex reasoning (Republic of Estonia, 2019).

### *1.2. Key Drivers of Adoption*

Several forces have accelerated AI application in the public sector and government institutions as shown in Figure 1.

***Figure 1***

*Key Drivers of Adoption*




**Big Data:** The exponential growth in data availability represents perhaps the most significant enabler of AI applications in the public sector and government institutions. Public institutions generate and maintain vast repositories of administrative data-from tax records and benefit determinations to infrastructure monitoring and public health surveillance. The Danish Basic Data Program exemplifies a systematic approach to data integration, creating a unified data architecture that enables AI applications across administrative domains (Danish Agency for Digitisation, 2020). Similarly, Singapore's Smart Nation initiative has established data-sharing protocols that facilitate AI development while incorporating robust privacy protections (Smart Nation Singapore, 2024).

**Computational Power:** Recent advances in cloud computing and specialized hardware for neural network processing have substantially lowered the technical barriers to deploying AI. For example, the UK Government Digital Service has adopted cloud infrastructure to support AI systems, circumventing the high costs of traditional IT procurement (Department for Science, Innovation and Technology, 2025).

**Political and Citizen Pressures:** Public expectations for more responsive, tailored and efficient services have created strong incentives for adopting digital solutions, positioning AI as central to administrative modernization (OECD, 2020).

**Tackling "Wicked" Problems:** Modern governments face policy challenges resistant to traditional approaches. AI can help by uncovering patterns in complex data and modeling policy impacts across domains (Desouza & Jacob, 2017). For instance, Finland has used ML to simulate the effects of reforms in taxation and social benefits, enabling more informed decisions about impacts on different groups (Ministry of Finance Finland, 2022).

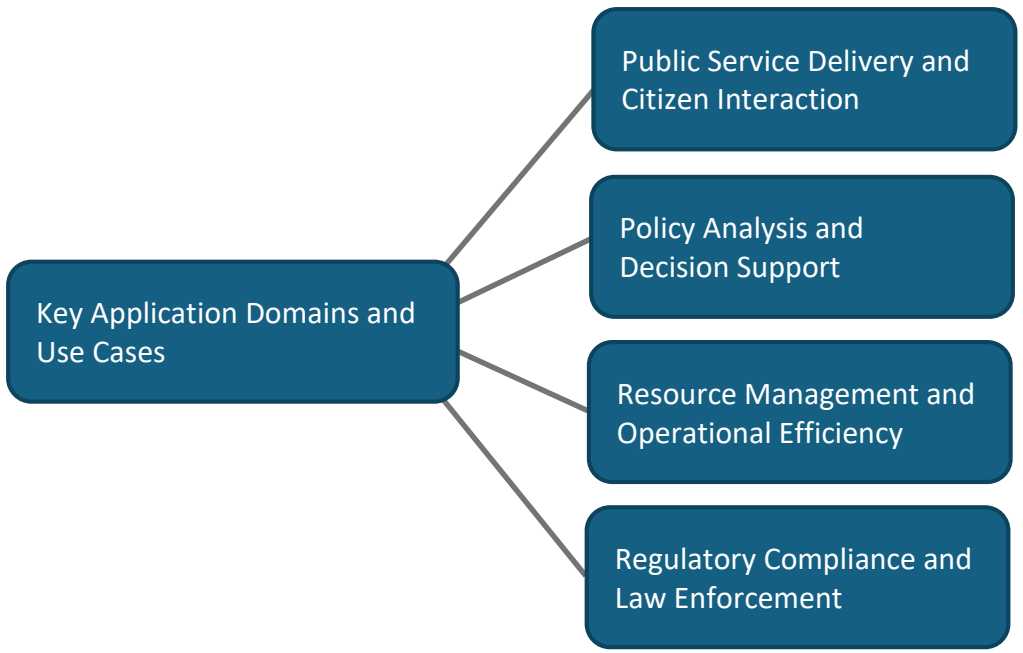
These factors have sped up the use of AI in the public sector and government institutions, but how it is implemented and how advanced it is can vary significantly. According to the OECD, by 2023, governments had started over 930 AI policy initiatives in 71 countries (OECD, 2023). Still, many of these projects are just pilots and have not yet led to big changes across entire organizations.

## 2. Key Applications, Domains and Use Cases

This section describes key applications, domains and use cases in the public sector and government institutions that can be applied across various areas, as shown in Figure 2.

***Figure 2***

*Key Applications, Domains and Use Cases*

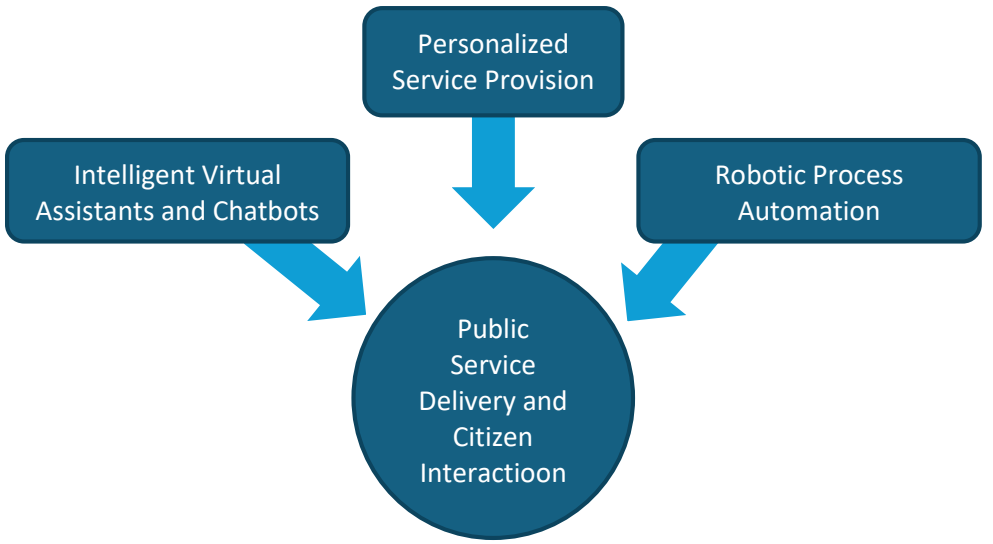


### *2.1. Public Service, Delivery and Citizen Interaction*

Public service, delivery and citizen interaction are composed of several facilities as shown in Figure 3.

***Figure 3***

*Public Service, Delivery and Citizen Interaction Facilities*




**Intelligent Virtual Assistants and Chatbots:** Natural language processing capabilities have enabled the development of conversational interfaces that provide 24/7 access to governmental services and information. The United States Citizenship and Immigration Services' "Emma" virtual assistant, which handles approximately 1 million immigration-related inquiries monthly, exemplifies this application category (USCIS, 2022). Similarly, Singapore's "Ask Jamie" virtual assistant operates across multiple government agencies, providing citizens with a unified interface for diverse administrative queries (GovInsider, 2023). Similarly, Türkiye's e-Government Gateway provides personalized service recommendations to citizens by analyzing past interactions and individual profiles (Türkiye's e-Government Gateway, 2025).

**Personalized Service Provision:** ML algorithms increasingly enable the personalization of service offerings based on individual citizen circumstances, preferences and needs. One of the largest programs that covers the broadest range of domains is the Digital Europe Programme (DIGITAL) (2021–2027) (European Commission, 2025). DIGITAL is an EU funding programme focused on bringing digital technology to businesses, citizens and public administrations. The programme aims to accelerate the adoption of advanced digital technologies across Europe to strengthen competitiveness and improve public services. With a budget of €7.5 billion, the programme invests in supercomputing, AI, cybersecurity, advanced digital

skills and the rollout of digital technologies. This variety shows both the wide range of government responsibilities and how flexible modern AI technologies can be. The Australian government's "My Gov" platform utilizes predictive analytics to proactively identify services for which citizens may be eligible based on their demographic characteristics and prior interactions (Digital Transformation Agency Australia, 2023). In Finland, the "Aurora" AI network aims to create personalized service pathways that span multiple governmental agencies, using predictive analytics to anticipate citizen needs and orchestrate relevant services (Ministry of Finance Finland, 2023).

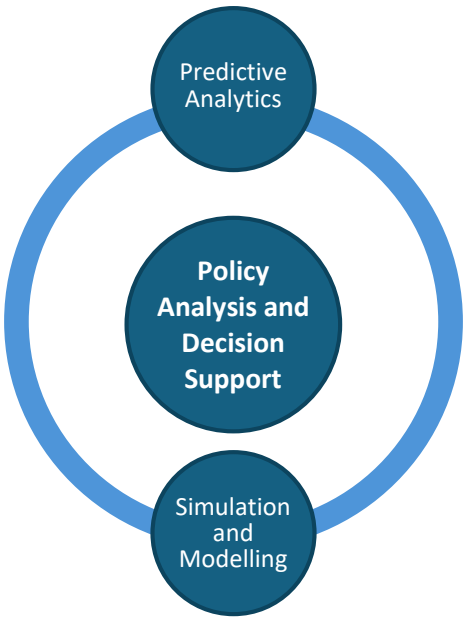
**Robotic Process Automation (RPA):** RPA systems automate high-volume, repetitive back-office processes such as data entry, form processing and information verification. The United Kingdom's Department for Work and Pensions has implemented RPA for benefits processing, reducing processing times by 40% while improving accuracy rates (Department for Work and Pensions, 2025).

### *2.2. Policy Analysis and Decision Support*

In policy analysis and decision support two main methods can be used as shown in Figure 4.

***Figure 4***

*The Main Methods of Policy Analysis and Decision Support*




**Predictive Analytics:** ML models increasingly support predictive capabilities across multiple policy domains. In public safety contexts, predictive policing applications analyze historical crime data to optimize patrol allocations, though these applications have raised significant ethical concerns regarding potential bias reinforcement

(Brayne, 2020). In healthcare administration, predictive models forecast service demand, enabling more efficient resource allocation. The Canadian province of Ontario's health system utilizes ML to predict hospital readmissions, enabling proactive interventions for high-risk patients (Ontario Ministry of Health, 2023).

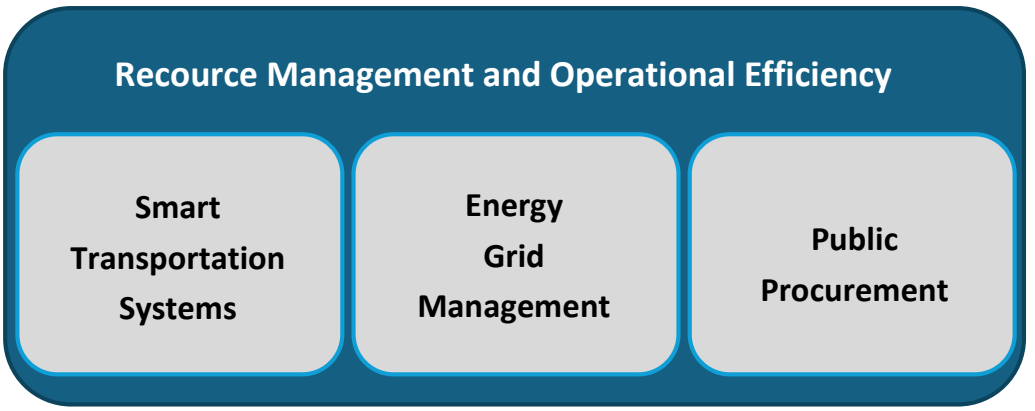
**Simulation and Modelling:** Advanced computational modeling techniques enable "what-if" analysis of policy interventions, allowing policymakers to simulate potential outcomes before implementation. The New Zealand Treasury's "Living Standards Framework" utilizes agent-based modeling to simulate the distributional impacts of proposed policies across multiple well-being dimensions (New Zealand Treasury, 2021).

### *2.3. Resource Management and Operational Efficiency*

The sections of resource management and operational efficiency are shown in Figure 5.

***Figure 5***

*The Sections of Resource Management and Operational Efficiency*




**Smart Transportation Systems:** ML algorithms optimize traffic flow management, public transit routing and infrastructure maintenance. Singapore's "Smart Mobility" initiative utilizes real-time data analytics to optimize traffic signal timing, reducing congestion by an estimated 20% in pilot zones (Guo & Leong, 2025). In Türkiye, Istanbul's smart traffic management system uses AI to analyze traffic patterns and adjust signal timings, aiming to reduce travel times and emissions (Smart Mobility, 2025).

**Energy Grid Management:** AI's contributions to energy systems extend across several domains, including power generation forecasting, demand prediction and energy storage optimization (Rao et al., 2024).

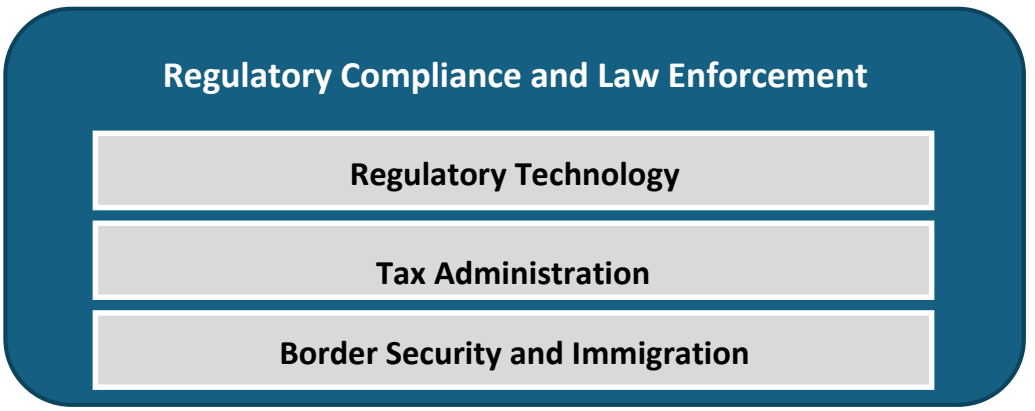
**Public Procurement:** ML models increasingly support procurement processes through anomaly detection, supplier analysis and contract management (Waseem, 2023).

### *2.4. Regulatory Compliance and Law Enforcement*

The components of regulatory compliance and law enforcement are shown in Figure 6.

***Figure 6***

*The Components of Regulatory Compliance and Law Enforcement*




**Regulatory Technology:** ML applications enable more efficient monitoring of compliance with regulatory requirements in sectors such as finance, environmental protection and workplace safety. The Financial Conduct Authority in the United Kingdom has implemented ML systems to identify potential market manipulation patterns in financial trading data (Financial Conduct Authority, 2024).

**Tax Administration:** ML models enhance both compliance promotion and fraud detection in taxation systems. The Spanish Tax Agency utilizes predictive analytics to identify taxpayers at high risk of non-compliance (Spanish Tax Agency, 2023), enabling targeted interventions that have increased revenue collection by an estimated €1.5 billion annually (Harb, 2025). Türkiye's Revenue Administration has introduced ML to improve risk-based selection of tax returns for audit, thereby increasing the effectiveness of tax compliance efforts (KURGAN, 2025).

**Border Security and Immigration:** ML applications support risk assessment, document verification and resource allocation in border management contexts. The European Union's "iBorderCtrl" system utilizes ML for traveler risk assessment, though this application has generated significant controversy regarding privacy implications and potential bias (European Union Agency for Fundamental Rights, 2025).

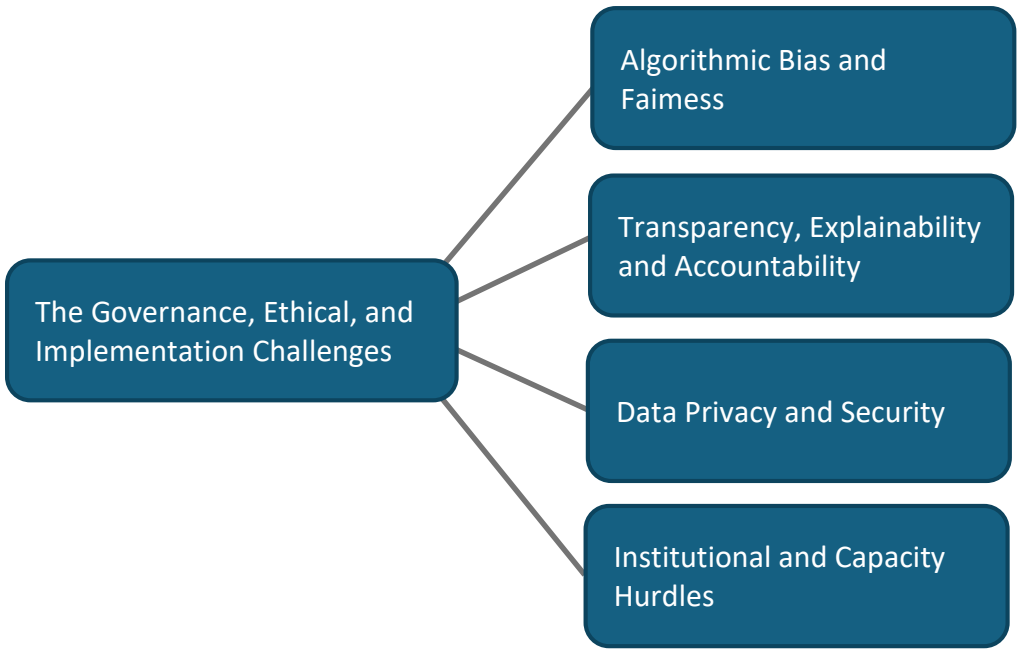
The many ways AI is used in the public sector and government institutions show how versatile the technology is. Still, how advanced these projects are can be very different between countries and sectors. Oxford Insights (2024) reports that while more governments are using AI, most projects are still in early or pilot stages and have not been fully rolled out.

## 3. The Governance, Ethical and Implementation Challenges

This section introduces governance challenges of the deployment of AI in the public sector that extend beyond technical considerations and encompass ethical, legal and institutional dimensions as shown in Figure 7.

***Figure 7***

*The Governance, Ethical and Implementation Challenges*




### *3.1. Algorithmic Bias and Fairness*

A major ethical concern centers on the risk that AI systems may amplify or reinforce existing social inequalities. ML models trained on historical data reflecting systemic bias can create outcomes that negatively affect marginalized groups. İn the public sector and government institutions, this problem is especially critical, as public sector algorithms often impact access to rights and resources.

Substantial evidence documents such bias. Angwin et al. (2016) found notable racial disparities in criminal risk algorithms used during sentencing, where Black defendants were roughly twice as likely as white defendants to be misclassified as

high risk. Similarly, Obermeyer et al. (2019) identified that healthcare allocation algorithms routinely disadvantaged Black patients by relying on costs rather than actual care needs, neglecting longstanding disparities in access.

Because public sector decisions hold authoritative power, the effects of algorithmic bias can be far-reaching, particularly for vulnerable populations. As Eubanks (2025) emphasizes in her work on welfare administration, these systems risk replicating a "digital poorhouse" that confines disadvantaged groups.

Addressing algorithmic bias requires more than technical remediation; comprehensive responses include:

- Preprocessing to identify and reduce bias in training data
- Methods during model training that enforce fairness constraints
- Post-processing adjustments to outputs to improve equity
- Impact assessments to anticipate potential disparate effects before system deployment

Beyond technical interventions, organizations are creating standards for fairness, mandating independent audits and developing continuous monitoring frameworks. For example, Canada's Algorithmic Impact Assessment tool, required under federal policy, ensures evaluation of discriminatory impacts ahead of deployment (Treasury Board of Canada, 2025). The EU's AI Act also mandates dataset documentation, bias testing and human oversight for high-risk government AI systems (European Commission, 2024).

Recent scholarship suggests that lasting solutions demand fundamental reconsideration of how algorithmic systems mediate the allocation of resources and rights. According to Papagiannidis et al.(2025), the European Commission's policy approach places fairness at the center of AI system design and deployment.

### *3.2. Transparency, Explainability and Accountability*

The complexity and opacity of state-of-the-art AI systems, particularly DL models, present difficulties for democratic governance and administrative law. Traditionally, government decisions that affect individual rights must be transparent and include clear reasons based on facts and law. By contrast, intricate AI models often operate as "black boxes," making their functioning difficult to explain even to experts.

This lack of transparency raises several issues:

- Individuals struggle to understand decisions impacting their rights or access to services
- Oversight bodies and courts may find it hard to review and assess AI-driven decisions

- Assigning responsibility for negative outcomes becomes complicated
- Public understanding of government processes may erode

Research by Aoki et al. (2024) shows that when explanations for AI-driven government decisions are provided, public trust can improve-although the effects vary by explanation type.

Explainable AI (XAI) methodologies seek to increase interpretability without sacrificing accuracy. In addition to technical solutions, institutional mechanisms to ensure accountability include:

- Maintaining public registries of government AI applications (e.g., those in Amsterdam and Helsinki)
- Conducting impact assessments before system rollout
- Requiring external audits for high-risk systems
- Clearly delineating responsibility within government structures

As Yeung & Lodge (2019) argue, integrating AI into public administration requires new forms of accountability that address both human actions and technical processes. Cheong (2024) offers a detailed overview of corresponding legal and ethical challenges, stressing the need for comprehensive solutions involving both technical design and institutional governance.

### *3.3. Data Privacy and Security*

Government AI applications typically involve the collection and processing of substantial-often sensitive-personal data, presenting tensions with fundamental privacy rights.

Key privacy concerns include:

- Using data collected for one purpose in other AI applications
- The practical limitations of informed consent when government data collection is unavoidable
- Tensions between minimizing data collection and the data needs of ML
- Risks that supposedly anonymized datasets can be re-identified
- Heightened surveillance potential through enhanced monitoring capacity

Legal protections vary. The European Union's General Data Protection Regulation (GDPR) includes strict requirements on government data use, with specific provisions for automated decision-making (Article 22) and data protection impact assessments (Article 35).

Security concerns are also growing. Expanded data and system complexity introduce risks of adversarial attacks, where actors intentionally manipulate inputs to trigger errors in AI predictions.

The protection of privacy and security in public sector AI depends on:

- Privacy-preserving ML (such as federated learning or differential privacy)
- Strong access controls and data governance
- Secure system design
- Regular security audits and vulnerability testing
- Adversarial evaluations to reveal attack vectors

Striking a balance between data utility and privacy protection is particularly difficult in the public sector and government institutions, as citizens often cannot opt out of data collection.

### *3.4. Institutional and Capacity Hurdles*

Successful adoption of AI in the public sector faces organizational obstacles-such as workforce culture, skill gaps and legal uncertainty-which can be more difficult to address than technical issues.

Cultural barriers can block adoption if public servants perceive new technologies as threats to professional status or established practices. Wirtz et al. (2019) report considerable apprehension among government employees regarding possible job loss, diminished autonomy and increased managerial oversight through AI.

Skills shortages are a persistent issue, with expertise in data science, ML and AI ethics in high demand and often higher paid in the private sector. OECD (2024) highlights these gaps as a continuing constraint on effective government AI use.

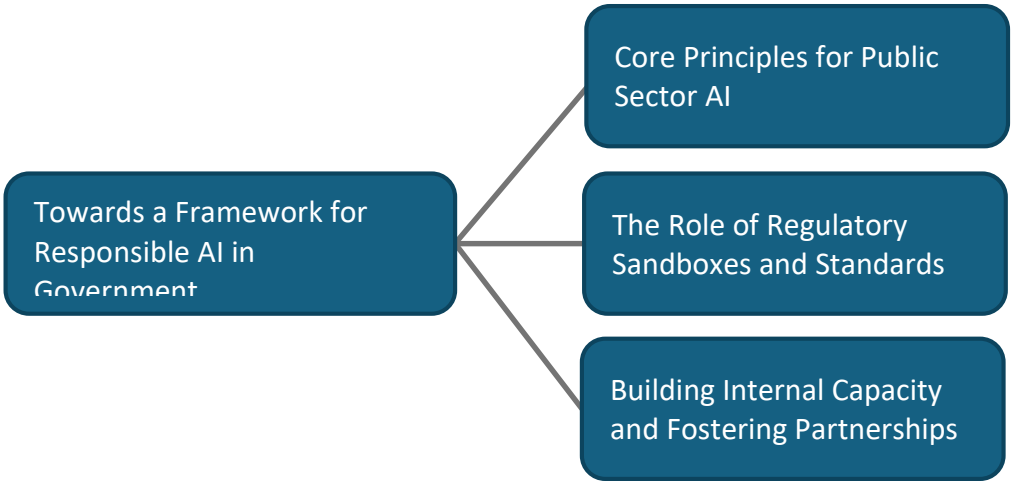
Legal and regulatory frameworks often lag behind technological developments, contributing to implementation uncertainty. Canada's Directive on Automated Decision-Making is one attempt to clarify administrative expectations for algorithmic systems (Treasury Board of Canada, 2025). Van Pinxteren (2024) provides an analysis of the impacts of the EU AI Act, offering recommendations for effective implementation in the public sector and government institutions.

## 4. Towards a Framework for Responsible AI in the Public Sector and Government Institutions

This section outlines a comprehensive approach that draws from international standards, regulatory guidance and practical implementation experience. The unique features of public sector environments-including the demands of democratic governance, administrative law and public service values-require dedicated frameworks for responsible AI use. Figure 8 shows an example of a framework for responsible AI in the public sector and government institutions.

***Figure 8***

*An Example of a Framework for Responsible AI in the Public Sector and Government Institutions*

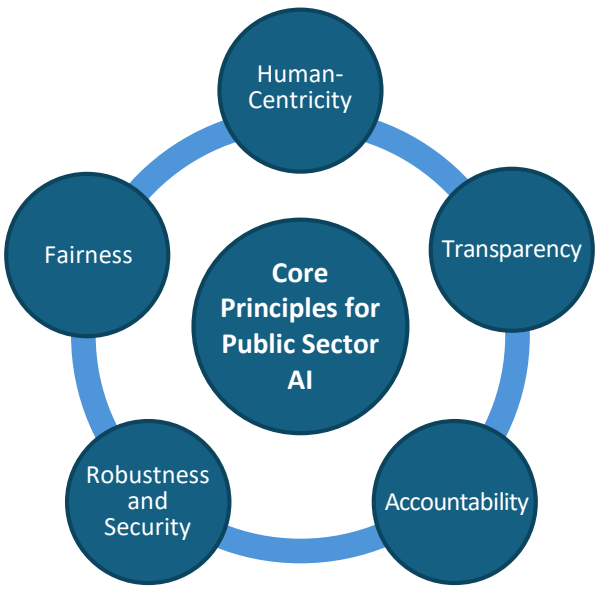



### *4.1. Core Principles for Public Sector AI*

Governments, international organizations and academic institutions have articulated numerous principles for responsible AI. A synthesis of these yields five core principles especially relevant for governmental settings as shown in Figure 9.

***Figure 9***

*Core Principles for Public Sector AI*



**Human-Centricity:** AI should support, not supplant, human judgment in consequential decisions. This approach acknowledges both the limitations of AI and the necessity of democratic accountability. The OECD AI Principles (OECD, 2023) state that "AI systems should be designed in a way that respects the rule of law, human rights, democratic values and diversity." Effective implementation means maintaining real human involvement in important government decisions. Singapore's Model AI Governance Framework distinguishes between automated and augmented decisions, imposing elevated human participation for critical outcomes (Infocomm Media Development Authority, 2024).

**Transparency:** Clear and meaningful openness is needed at every level-from which government functions use AI, to how AI shapes processes, to the decision logic behind outcomes and even how AI systems were developed. The EU's AI Act enforces tiered transparency based on risk, including documentation requirements, disclosures and explanation protocols for individuals (European Commission, 2024).

**Accountability:** Accountability in public sector AI rests on both rigorous technical validation and clear institutional responsibility. The NIST AI Risk Management Framework (2023) emphasizes integrating AI risk into organizational governance (National Institute of Standards and Technology, 2023). For governments, ultimate responsibility must always reside with human officials.

**Robustness and Security:** AI systems in the public sector and government institutions must be reliable, resistant to manipulation and protected from unauthorized access. The U.S. Executive Order 14110 (2023) highlights the need for AI safety, especially where national security is at stake (The White House, 2023). High-risk systems are subject to thorough testing-including stress tests and ongoing performance monitoring. The UK's standard for robustness and reliability requires proportional testing and oversight depending on risk (Department for Science, Innovation and Technology, 2023).

**Fairness:** AI should function equitably across populations, avoiding unjust impacts on marginalized groups. Operationalizing fairness means implementing pre- and post-deployment impact assessments, continuous monitoring and corrective mechanisms when unfairness arises-always considering multiple, intersecting dimensions of identity. For example, Canada's Directive on Automated Decision-Making requires algorithmic impact assessments focused on identifying discriminatory effects before launching new systems (Treasury Board of Canada, 2025).

While these principles lay a foundation for responsible AI governance, translating them into action demands robust technical and institutional mechanisms.

### *4.2. The Role of Regulatory Sandboxes and Standards*

Regulatory sandboxes-controlled environments offering a space to experiment while temporarily easing some regulatory requirements-create opportunities for innovative AI applications, while managing risks. Such enclaves allow governments to develop and evaluate new uses of AI before full-scale deployment.

The UK Financial Conduct Authority introduced the sandbox concept in the financial sector (Financial Conduct Authority, 2022) and similar models have taken root for AI development. Singapore's Infocomm Media Development Authority's AI sandbox allows public agencies to test applications with oversight (Infocomm Media Development Authority, 2022). Finland's "AuroraAI" project used a sandbox to design cross-agency personalized services (Ministry of Finance Finland, 2022).

To be effective, sandboxes must have:

- Clear rules for participation
- Defined limits on use scope and timeframe
- Strong monitoring to identify emerging risks
- Processes to facilitate transition to full compliance once testing concludes

International standards organizations, including ISO and IEEE, have established guidelines for managing AI risks and promoting practices such as bias reduction, data privacy and transparency. ISO/IEC 23894:2023 and the IEEE P7000 series are illustrative. These frameworks offer valuable resources but must be adapted to fit national and sector-specific requirements.

Singapore's Model AI Governance Framework is one example of translating broad principles into actionable public sector guidance (Infocomm Media Development Authority, 2024).

### *4.3. Building Internal Capacity and Fostering Partnerships*

Robust government AI implementation depends on developing internal expertise and forging external collaborations. Agencies need staff who are skilled not just in technical fields like data science and cybersecurity, but also in ethics, law and public administration. Because most government organizations do not have all these skills, training and working together are both important responsible for strategic decisions

- Technical training pathways for staff involved in system development and implementation
- Ethics and governance education for those overseeing AI applications
- Recruitment pathways for specialized technical talent
- Knowledge sharing mechanisms across governmental entities

The Canadian government's AI Source initiative exemplifies this approach by providing training resources, implementation guides and community engagement opportunities for public servants involved in AI projects (Treasury Board of Canada, 2025).

Beyond internal capacity building, strategic partnerships enable public agencies to access specialized expertise and resources. These partnerships may include:

- Academic collaborations for research and development
- Private sector engagements for technical implementation
- Civil society partnerships for ethical oversight and community engagement
- Intergovernmental cooperation for knowledge sharing and standard development

Finland's "AuroraAI" program demonstrates this partnership approach by engaging academic institutions, technology companies and civil society organizations in the development of a cross-sectoral AI ecosystem (Ministry of Finance Finland, 2022).

Effective partnership models must address potential challenges including intellectual property allocation, data governance, conflict of interest management and alignment of incentives. The UK Government's Guidelines for AI Procurement provide a framework for structuring vendor relationships that emphasize knowledge transfer, avoid vendor lock-in and maintain appropriate governmental control (Office for Artificial Intelligence, 2025).

Building capacity is not just about technical skills; it also means developing the ability to oversee and manage AI in the public sector and government institutions. This requires experts who understand both technology and how the government works. Academic programs in public interest technology can help train people to connect these two areas.

## Conclusion

This chapter has examined how AI is changing in the public sector, focusing on its development, where it is used, the challenges it brings and how it can be put into practice.

First, most uses of AI in the public sector and government institutions are still new and often limited to pilot projects rather than full implementation. This is due to both technical challenges and the major organizational changes required within government organizations.

Second, to manage AI well in the public sector and government institutions, strategies need to address both how the technology is developed and how organizations

operate. Solving issues such as bias or making AI understandable requires strong structures, standards and rules to make sure people are accountable.

Third, the government has special features like democratic accountability, laws and public service values that need special ways of managing AI. Unlike in business, the government must balance being efficient with being fair and open to public oversight.

A few new trends are likely to shape how AI develops in the public sector and government institutions in the future:

- The emergence of increasingly autonomous systems will intensify governance challenges related to human oversight, accountability, and the appropriate allocation of authority between human officials and algorithmic systems.
- International cooperation will become increasingly important for effective AI governance as both technologies and their impacts transcend national boundaries.
- Public engagement in AI governance will likely expand as awareness of algorithmic systems in governmental contexts grows. Effective governance approaches must incorporate mechanisms for meaningful stakeholder participation, particularly from communities potentially affected by algorithmic determinations.

In summary, AI can significantly enhance how government provides services, analyzes policies, and carries out daily operations. Government democratic values, governments need strategies that address both technological and organizational management aspects. The best results will be achieved by aligning new technology with core public values such as justice, fairness, transparency, and accountability.

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