IBM Center for The Business of Government 2024

Navigating Generative AI in Government

Professor Dr. Alexander Richter
Victoria University of Wellington

IBM Center for
The Business
of Government

Navigating Generative AI in Government

Professor Dr. Alexander Richter

Wellington School of Business and Government
Victoria University of Wellington

OCTOBER 2024

IBM Center for
The Business
of Government

Table of Contents

Foreword

On behalf of the IBM Center for The Business of Government, we are pleased to release this new report: *Navigating Generative AI in Government* by Professor Dr. Alexander Richter, Wellington School of Business and Government, Victoria University of Wellington.

Daniel J. Chenok
Executive Director
IBM Center for
The Business of Government
chenokd@us.ibm.com

Generative AI refers to algorithms that can create realistic content such as images, text, music, and videos by learning from existing data patterns. Generative AI does more than just create content, it also serves as a user-friendly interface for other AI tools, making complex results easy to understand and use. Generative AI transforms analysis and prediction results into personalized formats, improving explainability by converting complicated data into understandable content. As Generative AI evolves, it plays an active role in collaborative processes, functioning as a vital collaborator by offering strengths that complement human abilities.

Generative AI has the potential to revolutionize government agencies by enhancing efficiency, improving decision making, and delivering better services to citizens, while maintaining agility and scalability. However, in order to implement generative AI solutions effectively, government agencies must address key questions—such as what problems AI can solve, data governance frameworks, and scaling strategies, to ensure a thoughtful and effective AI strategy. By exploring generic use cases, agencies can better understand the transformative potential of generative AI and align it with their unique needs and ethical considerations.

This report, which distills perspectives from two expert roundtable of leaders in Australia, presents 11 strategic pathways for integrating generative AI in government. The strategies include ensuring coherent and ethical AI implementation, developing adaptive AI governance models, investing in a robust data infrastructure, and providing comprehensive training for employees. Encouraging innovation and prioritizing public engagement and transparency are also essential to harnessing the full potential of AI.

We hope that this report provides government leaders and stakeholders with a practical set of considerations and potential actions that enable them to capture benefits and minimize risks from generative AI.

Nicholas Flood
Vice President IBM Technology
Country Leader IBM Australia
nicflood@au1.ibm.com

Executive Summary

Generative AI can play a critical role in transforming government operations, driving enhanced efficiency, improving decision making, and elevating citizen services in sectors such as public safety, healthcare, and policy development. However, without careful implementation, it also introduces risks around data privacy, legal liabilities, and ethical concerns that governments must address.

This report is intended to assist in the process of capturing lessons learned and providing a whole-of-government perspective. It is based on insights gathered from two roundtable discussions held in May and July 2024, which brought together leaders and experts from government agencies and generative AI practitioners. These discussions provided valuable perspectives that shaped the nine key themes for effectively integrating generative AI in government.

1. **Digital Transformation:** Generative AI supports digital transformation by optimizing workflows and resources, driving efficiency while encouraging innovation and learning—rather than focusing solely on new technology adoption.
2. **Use Cases and ROI:** Demonstrating tangible returns on investment through use cases such as automated IT support can justify AI investments and guide future strategies.
3. **Data Foundation:** High-quality data management is critical for effective AI outcomes, necessitating robust data governance and infrastructure.
4. **Ethical Considerations:** Ensuring fairness, transparency, and accountability in AI practices is vital for maintaining public trust and avoiding biases.
5. **Balancing Experimentation with Risk Management:** Government agencies must balance the need for innovation with robust risk management, updating policies to allow safe experimentation while protecting against real risks.
6. **Shifting the Cultural Mindset:** Overcoming risk aversion is key to AI adoption. Leadership should foster a culture that encourages safe experimentation and views failure as a learning opportunity.
7. **Skills Development:** Continuous education and training programs are essential to equip the workforce with the necessary expertise to implement and manage AI technologies.

8. **Diversity of AI Tools:** Leveraging a variety of AI tools tailored to specific government needs ensures effective and secure deployments.
9. **Human-AI Collaboration:** Designing flexible AI systems that complement human roles enhances collaboration and decision making.

To successfully integrate generative AI, government agencies should consider establishing a AI governance office to oversee initiatives and ensure ethical standards and set clear guidelines for data governance. In addition, empowering solution owners with governance capabilities will enhance model transparency and ensure agility, while maintaining coherence across government AI strategies. Developing adaptive governance models, investing in robust data infrastructure, promoting a culture of innovation, and implementing comprehensive training programs are critical steps. Additionally, expanding AI-driven citizen services and enhancing public engagement and transparency will build trust and ensure that AI initiatives align with public values.

The findings and recommendations emanating from these discussions align well with Australia's recently released National Framework for the Assurance of AI in Government and the Policy for the Responsible Use of AI in Government,[1] especially in their focus on governance, innovation, risk management, and public engagement. By adhering to these recently published policies, government agencies can ensure AI adoption aligns with public service goals while maintaining accountability and trust.

1. National Framework for the Assurance of Artificial Intelligence in Government: https://www.finance.gov.au/government/public-data/data-and-digital-ministers-meeting/national-framework-assurance-artificial-intelligence-government. Policy for Responsible Use of AI in Government: https://architecture.digital.gov.au/responsible-use-of-AI-in-government.

Introduction to Generative AI

Generative AI refers to algorithms capable of producing realistic images, text, music, and videos by learning from existing data patterns.[2] Generative AI does more than just create content; it serves as a user-friendly interface for other AI tools, making complex results easy to understand and use, whether it's generating text, images, or music. Additionally, generative AI transforms analysis and prediction results of other AI tools into personalized, user-friendly formats like customized texts or visual representations. In terms of understandability and presentation, generative AI improves explainability by converting complicated data and analyses into understandable content, such as summaries or reports. It also uses image generation models to transform data into visual formats that are easier to interpret.

As generative AI evolves, it begins to play more active roles in collaborative processes, challenging traditional notions of teamwork. While AI does not share human attributes like consciousness or common goals, it can nonetheless function as a vital collaborator by offering strengths that complement human abilities. In this sense, generative AI not only improves how users interact with technology but also redefines what it means to be part of a team, where the lines between decision maker and tool become increasingly blurred.[3]

Figure 1: Complementary Strengths in Human-AI Teams

These features are the basis of generative AI's transformative potential, particularly in automating processes, personalizing customer interactions, and enhancing decision making.

2. Dwivedi, Y. K., et al. (2023) "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642.
3. Sudeeptha, et al. (2025): Use Cases for Prospective Sensemaking of Human-AI-Collaboration. https://arxiv.org/pdf/2408.10812.

The Potential of Generative AI in Government

Generative AI is poised to revolutionise how government agencies operate, offering new tools and capabilities that can enhance efficiency, improve decision making, and deliver better services to its customers and citizens[4] whist maintaining agility and scalability.

However, before government agencies dive into the deployment of generative AI, it is crucial to address fundamental questions, such as: What specific problems can AI help solve? How can agencies ensure that they have the necessary data governance frameworks in place? What are the strategies to effectively scale AI solutions?

These questions serve as a foundation for a thoughtful and effective AI strategy that aligns with the unique needs and ethical considerations of government operations. As a first step towards addressing these questions, we start by exploring several generic use cases for generative AI in government that illustrate its transformative potential.

Policy Development and Analysis

Generative AI can significantly aid policymakers in developing and analysing policies:

- **Automated Report Generation:** Assisting policymakers by generating draft reports, policy briefs, and legislative summaries based on existing data and documents, accelerating the policy development process.
- **Scenario Planning:** Simulating the impact of different policy decisions, providing a visual and textual representation of potential outcomes, aiding in informed decision making.

4. Australia's AI Ethics Framework: https://www.industry.gov.au/data-and-publications/australias-artificial-intelligence-ethics-framework, Canada's AI Strategy: https://www.cifar.ca/ai/pan-canadian-artificial-intelligence-strategy, U.S. National AI Initiative: https://www.ai.gov, EU Artificial Intelligence Strategy: https://digital-strategy.ec.europa.eu/en/policies/european-approach-artificial-intelligence, Singapore's Model AI Governance Framework: https://www.pdpc.gov.sg/Help-and-Resources/2020/01/Model-AI-Governance-Framework.

Citizen Services

Generative AI can transform how government agencies interact with citizens:[5]

- **Virtual Assistants and Chatbots:** Handling routine inquiries from citizens, providing personalized responses and streamlining access to services.
- **Document Automation:** Automating the creation of standardized documents such as permits, licenses, and certificates, reducing processing time and improving efficiency.

Public Safety and Security

Generative AI can enhance public safety and security measures:

- **Deeper data insights:** AI models trained on sound data can provide accelerated insights into criminal hotspots and activities, enabling law enforcement to allocate resources more effectively.
- **Crisis Management:** Generating real-time updates and resource allocation plans, as well as analyse social media feeds to assess public sentiment.

Healthcare Services

Generative AI offers significant benefits in healthcare services:

- **Personalised Health Communication:** Generating tailored health advisories and reminders based on patient medical history, enhancing engagement and compliance with treatment plans.
- **Drug and Treatment Development:** Assisting in discovering new drugs and treatments, providing new insights to researchers.

Urban Planning and Infrastructure

Generative AI can contribute to urban planning and infrastructure maintenance:[6]

- **Smart City Development:** Generating detailed models and simulations of infrastructure projects, helping planners visualize the impact on traffic, environment, and community well-being.
- **Infrastructure Maintenance:** Predicting maintenance needs for public infrastructure, ensuring timely interventions.
- **Smart City Sustainability:** Forecasting hourly energy demand and generation, utilizing a dataset consisting of energy consumption, generation and weather data.[7]

5. Nirala, et al. (2022): A survey on providing customer and public administration-based services using AI: chatbot. Multimed Tools Appl 81, 22215–22246 (2022). https://doi.org/10.1007/s11042-021-11458-y.
6. Hao, et al. (2024): Empowering Scenario Planning with Artificial Intelligence: A Perspective on Building Smart and Resilient Cities, Engineering, https://doi.org/10.1016/j.eng.2024.06.012.
7. E.g. https://dsce.ibm.com/wizard/watsonx/results/watsonx-energy-forecasting#.

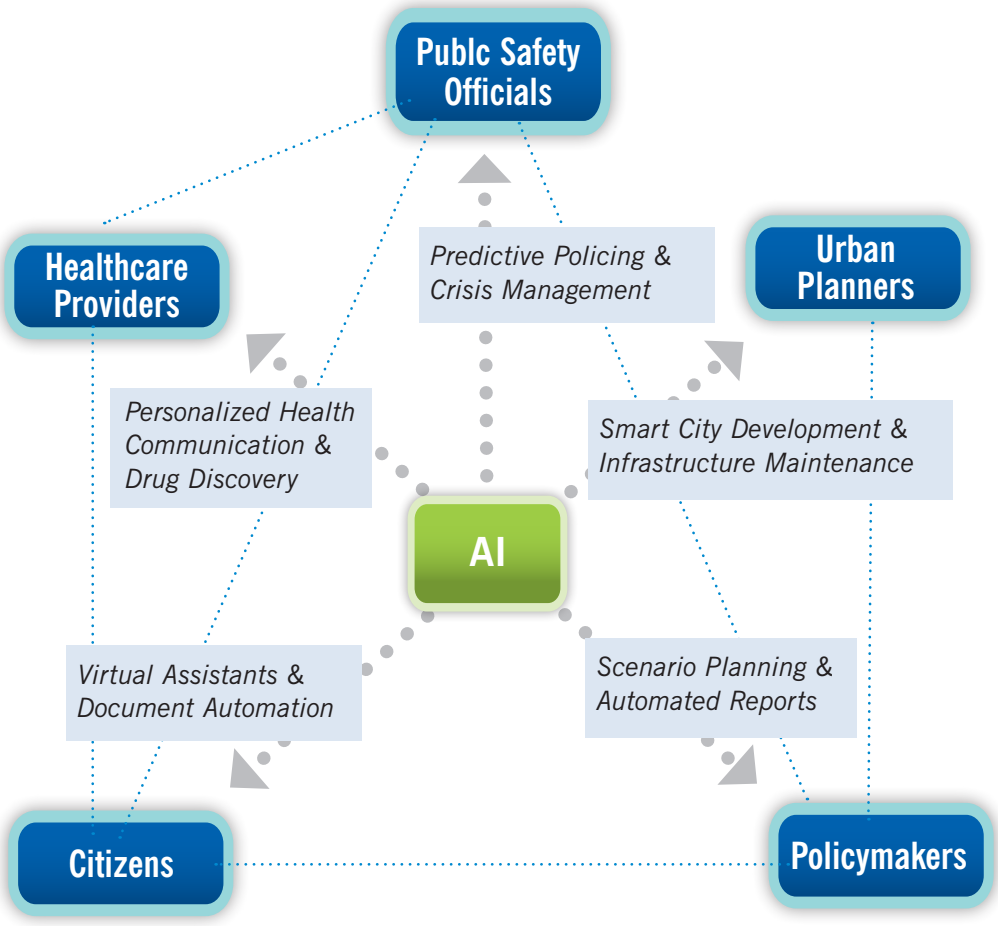
Education and Training

Generative AI can enhance education and training initiatives:

- **Personalised Learning:** Assisting to identify new customized learning paths for students, adapting content to individual learning styles, and promoting more effective outcomes.
- **Teacher Support:** Teachers can use generative AI tools to draft lesson plans and educational materials, allowing them to focus more on student interactions.

In addition to these applications, generative AI's role in government becomes particularly complex in multistakeholder environments where diverse interests must be navigated. AI systems operating in such settings must balance competing priorities, which requires a nuanced approach to decision making and collaboration. The ability of generative AI to effectively manage these complexities is crucial to enhance successful integration into government operations.

Figure 2: AI's Role in Multistakeholder Environments



This figure illustrates how human-AI collaboration navigates the challenges of operating in environments with multiple stakeholders, where its role often extends beyond simple decision making to mediating between conflicting interests.

Case vignette: The potential of generative AI for National Security

Generative AI is already recognised as leading to competitive advances in the context of defence and national security. A key theme is how to reinvent how work gets done in government—and move from 'AI as an afterthought' to 'AI first.'

Three key entry points for generative AI can bring significant value across national security in government.

Improved digital labour and improve asset readiness

- Generative AI accelerates identification of faults and defects in fixed assets and equipment platforms using improved image analysis.
- By automating the visual inspection of equipment, government can aid diagnosis and optimize the maintenance response to prevent failures occurring and accelerate fixing issues that do arise. This will speed up the assessment of battle damage using comparative analysis. For example, there is great opportunity for automation of runway inspection and other physical infrastructure for concrete damage.

Improved customer care and summarisation assistants

- Generative AI summarizes corpus of policy, doctrine or case documents.
- As a new type of human assistant, this speeds up and improves the defence planning process using a policy digital twin that better interprets questions, navigates content, and summarizes it in a response. For example, this can improve the operational handling and awareness of cases and mission operations by generating summarized situation reports, or quickly identifying the latest progress for shift handovers and briefings.

Improved mission planning and generation of synthetic data

- Generative AI creates synthetic data, and it can be used to protect sensitive information during testing stages while concurrently proving domain specific data sets.
- Content can be created and used for training other AI and machine learning algorithms or apply this approach operationally and generate synthetic data and content that supports military planning (course of action) analysis. For example, code creation can be employed to convert applications to modern languages, and generative AI can extract workflows and rules from complex data stores of existing lessons learnt.

Obstacles to Adopting Generative AI

The adoption of generative AI faces numerous obstacles that can be categorized into three main areas: knowledge, skills, and attitude.[8]

Knowledge

- **Lack of AI Strategy:** Many organizations struggle with developing a cohesive AI strategy, leading to unclear divisions of labour between humans and AI and ineffective role adaptation.
- **Insufficient AI Literacy:** A significant barrier is the lack of understanding of AI's functionalities, complexity, and decision making processes, which results in confusion, unrealistic expectations, and resistance to collaboration with AI systems.

Skills

- **Communication Challenges:** Effective interaction with AI requires advanced communication skills, particularly because AI systems often struggle with natural language processing, leading to gaps in understanding.
- **Lack of Role Evolution and Technology Readiness:** The integration of AI necessitates significant changes to existing roles, work patterns, and digital competencies. Additionally, a lack of technological readiness, including inadequate IT infrastructure, hinders AI adoption and fosters mistrust and fear.

8. Sudeeptha, Müller, Richter, Leyer, Nolte (2024): Obstacles to Human-AI collaboration: A competence-based approach. 45th International Conference on Information Systems, Bangkok, 2024.

Attitude

- **Cultural and Ethical Resistance:** Deep-seated values and concerns about AI's reliability, coupled with ethical and privacy issues, lead to resistance in adopting AI. This is exacerbated by fears of reduced human agency and job security, as well as a lack of leadership support, which is critical for fostering an AI-supportive culture.
- **Trust Issues:** Trust in AI remains fragile due to ethical dilemmas, biases, and the perceived complexity of AI interactions, particularly in sensitive decision making areas.

This report next identifies and examines key themes related to the integration of AI, particularly the challenges and obstacles unique to government settings. Building on these insights, it further explores strategies for overcoming these hurdles, ensuring that AI is effectively and ethically integrated into public sector operations. By addressing these and additional challenges, the report provides guidance on how to navigate the complexities of AI in government, with a focus on maintaining the principles of public service and enhancing human capabilities.

Navigating Generative AI in Government—Nine Key Themes

The following section explores nine key themes essential for navigating generative AI in government. They are based on insights from two roundtable discussions conducted in May and July 2024 (see acknowledgements for participants). These sessions convened leaders and experts from government agencies alongside generative AI professionals, whose contributions helped identify the critical themes for successful generative AI adoption in government contexts, providing a whole-of-government perspective.

1. AI and Digital Transformation

Generative AI plays a crucial role in digital transformation by automating workflows, optimizing expenditures, and improving overall efficiency.[9] Successful AI adoption requires innovative approaches and leadership support, creating environments that encourage experimentation and learning. This includes strategic vision and clear principles for AI implementation. It is essential for government agencies to clearly define the specific use cases where AI can drive significant value, particularly in improving efficiency, reducing costs, and enhancing service delivery. Furthermore, the success of AI in government hinges not only on technological readiness but also on robust data governance practices and ethical considerations, such as minimizing biases and ensuring transparency.

> *AI is an enabler, not a provider. It supports digital transformation by allowing organizations to get 'more value out of what we have already.' This means leveraging existing data and systems more efficiently rather than constantly seeking new technology. In this way, AI maximizes the utility of current resources, making transformation efforts more cost effective and impactful.*
>
> Workshop Insight (participant statement[10])

9. Brynjolfsson, E., Li, D., & Raymond, L. R. (2023). Generative AI at work (No. w31161). National Bureau of Economic Research
10. The 'insights' are paraphrased summaries derived from multiple statements made during the workshops.

2. Use Cases and the ROI

Generative AI can significantly impact customer experience through various use cases such as personalised marketing, automated content creation, and product recommendations.[11] Measuring the ROI of these initiatives is crucial for justifying investments and guiding future strategies. Communicating the benefits and risks effectively is essential, supported by real-world examples of success. Learning from past successes and failures can guide future strategies.

> *AI's ability to route IT support questions and document complex cases has shown to be highly effective, easing the workload on individuals and speeding up the problem-solving process. These use cases highlight how AI can deliver tangible ROI by reducing manual effort and accelerating service delivery. Quantitative results, such as the amount of time saved through AI implementations, provide compelling evidence of AI's value in practice.*
>
> Workshop Insight (participant statement)

3. Data as the Foundation

The effectiveness of generative AI relies on the quality and volume of data including dealing with legacy systems. Robust data management strategies are necessary to ensure data accuracy, relevance, and compliance with regulations. Leveraging high-quality data enables AI models to produce accurate and valuable outputs.

> *The success of generative AI initiatives in government hinges not just on the technology used, but critically on the quality, accuracy, and cleanliness of the data that powers these AI models. Trusted AI requires robust data governance practices that ensure compliance with regulatory standards and avoid issues such as data homogeneity and copyright violations. By using clean, accurate, and diverse datasets, government agencies can enhance the traceability and reliability of AI outputs, leading to more ethical and effective decision making processes.*
>
> Workshop Insight (participant statement)

11. Peruchini, M., da Silva, G. M., & Teixeira, J. M. (2024). Between artificial intelligence and customer experience: a literature review on the intersection. Discover Artificial Intelligence, 4(1), 4.

4. Ethical Considerations and Compliance

Adopting generative AI involves navigating ethical considerations. Responsible AI practices that focus on fairness (i.e., preventing biased outcomes and protect personal data), transparency (i.e., allowing the public to understand how decisions are made), and accountability (i.e., establishing clear oversight structures) are essential to maintaining public trust and avoiding bias in AI outputs.[12] There may be a need for new roles, such as Chief Ethics Officers, to ensure responsible AI practices. Ethical AI deployment must consider the context in which AI operates. As AI increasingly collaborates with humans, its role varies across different environments, necessitating flexible and adaptive ethical guidelines. Recognizing AI as a collaborator rather than just a tool requires governance that aligns AI's actions with human values and societal norms.

> *Governance and ethics play a pivotal role in the development and deployment of AI. For example, in the development of large language models (LLMs), careful consideration of data sources is essential to avoid biases and ensure inclusivity, minimizing bias in AI models by considering diverse perspectives, including beyond a male-dominated data set, is an exemplary practice.*
>
> Workshop Insight (participant statement)

5. Balancing Experimentation with Risk Management

Experimentation is essential for the successful adoption of AI-driven initiatives, but it often clashes with existing policies within government agencies. While exploring new approaches and testing AI capabilities are critical, they must be balanced with the need to manage real risks, such as data security, ethical compliance, and regulatory requirements. Striking this balance requires updating policies to allow room for innovation while ensuring robust risk management practices are in place to protect the agency and the public.

> *Innovation thrives on experimentation, but in government settings, we must carefully navigate between encouraging new ideas and adhering to policies that manage risks. Finding this balance is key to harnessing AI's potential without compromising on security or compliance.*
>
> Workshop Insight (participant statement)

12. National Framework for the Assurance of Artificial Intelligence in Government: https://www.finance.gov.au/government/public-data/data-and-digital-ministers-meeting/national-framework-assurance-artificial-intelligence-government. Policy for Responsible Use of AI in Government: https://architecture.digital.gov.au/responsible-use-of-AI-in-government. Supporting Responsible AI: discussion paper https://consult.industry.gov.au/supporting-responsible-ai. Voluntary AI Safety Standard: https://www.industry.gov.au/publications/voluntary-ai-safety-standard. Hacker et al. (2023). Regulating ChatGPT and other large generative AI models. In Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency. https://dl.acm.org/doi/abs/10.1145/3593013.3594067.

6. Shifting the Cultural Mindset Towards Innovation

Experimentation and learning can help facilitate a successful implementation of AI-driven initiatives. However, these processes often clash with existing agency cultures, particularly those with a strong aversion to risk. This mindset can hinder the adoption of AI technologies that require experimentation and a willingness to learn from failure.[13] A culture that actively encourages innovation and calculated risk-taking, rather than simply tolerating it, can help overcome this barrier. Leadership plays a vital role in this shift by creating an environment where employees feel psychologically safe to experiment, knowing that failures are seen as opportunities for growth rather than reasons for reprimand.

> *AI implementation often requires a shift in mindset, encouraging teams to experiment and learn, even in the face of potential risks. Bottom-up innovation, driven by those who use the processes daily, can be a powerful force in overcoming risk aversion. There needs to be a focus on creating a supportive environment where risk-taking is encouraged, but with clear safeguards that protect individuals and the organization from potential downsides.*
>
> Workshop Insight (participant statement)

7. Skills and Talent Development

It is essential to invest in skills and talent development through continuous education and training programs. Continuous education and training programs are needed to ensure the workforce has the necessary expertise to implement and manage AI technologies. Many organizations have started to offer extensive AI training programs to help employees stay ahead in the rapidly evolving AI landscape, ensuring they can effectively use AI tools to enhance customer experiences. Additionally, it is important to seed AI education into the broader education system, particularly in STEM curricula, to prepare future generations.

> *Education and continuous learning are critical in the AI landscape, particularly as AI becomes more integrated into various functions. It is essential to define the role of managers in AI enablement, ensuring they understand how to leverage AI tools effectively within their teams. Moreover, empowering staff to innovate from the ground up—especially in tasks they may not want to do—can drive adoption and uncover new opportunities. For instance, training programs focused on practical applications, like using AI for routine tasks, can accelerate the integration of AI and make it a valuable part of daily operations.*
>
> Workshop Insight (participant statement)

13. Stackpole (2024): Leading the AI-driven organization. MIT Sloan. https://mitsloan.mit.edu/ideas-made-to-matter/leading-ai-driven-organization.

8. The Diversity of AI Tools

Generative AI encompasses a wide range of models and deployment strategies, each offering distinct advantages depending on the context. These include public-facing AI models (accessible via the internet) as well as AI systems designed to operate securely within internal government networks. This diversity reflects the varied needs and priorities of government agencies. Public AI systems, for instance, are often utilized for broad applications where access to diverse information is key. In contrast, internally deployed AI systems are preferred for handling sensitive data and ensuring compliance with stringent security regulations. The presence of multiple AI tools allows agencies to address a broader spectrum of challenges by selecting the most suitable technology for each specific task.

> *The key is understanding the unique capabilities of each tool and applying them strategically to maximize their effectiveness across various government functions. We need to mitigate risks when it comes to personal data.*
>
> Workshop Insight (participant statement)

9. The Flexibility in AI-Human Collaboration

Human-AI collaboration is inherently flexible, with AI systems taking on different roles depending on the context. In some basic scenarios involving common or repetitive tasks, AI might assume a directive role, making decisions or providing insights that guide human actions. In other situations, humans may lead, with AI serving as a sophisticated tool that amplifies human capabilities. This adaptability is crucial in complex environments where rigid structures may not suffice, allowing the roles of AI and humans to shift based on situational demands. Moreover, the dualities inherent in AI-human collaboration—such as AI's potential to both augment and deplete human knowledge, or to be accepted or resisted by human teammates—underscore the importance of context in determining the effectiveness of AI. These dualities highlight the need for a nuanced understanding of how AI is integrated into workflows and decision making processes, ensuring that the collaboration between AI and humans is both productive and contextually appropriate.

> *The effectiveness of AI in collaboration depends heavily on its ability to adapt to different roles, sometimes leading, sometimes supporting. This flexibility, however, brings its own challenges, as the acceptance of AI by human collaborators varies. Recognizing these dualities—where AI can enhance or hinder, be embraced or resisted—remains key to leveraging AI effectively in diverse and dynamic environments.*
>
> Workshop Insight (participant statement)

Strategic Pathways for Integrating Generative AI in Government

The next sections outline key actions for responsibly integrating generative AI into government operations. These pathways, aligned with the 'National Framework for the Assurance of AI in Government' and the Policy for the Responsible Use of AI in Government,[14] focus on governance, innovation, risk management, and public engagement. By adhering to these recently published policies, government agencies can ensure AI adoption aligns with public service goals while maintaining accountability and trust.

Additionally, Australian Government Department of Industry, Science and Resources (DISR) recently released two documents that will form the basis of the Australian AI government's 'whole of economy' approach to promoting safe and responsible AI:

- A Voluntary AI Safety Standard that can be applied to all AI systems[15]
- A Proposals Paper for Introducing Mandatory Guardrails for AI in High-Risk Settings, on which it is seeking public comment[16]

The next section outlines key themes from this effort, which provides important context for implementing insights form the roundtable.

14. National Framework for the Assurance of Artificial Intelligence in Government. https://www.finance.gov.au/government/public-data/data-and-digital-ministers-meeting/national-framework-assurance-artificial-intelligence-government. Policy for Responsible Use of AI in government. https://architecture.digital.gov.au/responsible-use-of-AI-in-government.
15. Voluntary AI Safety Standard. https://www.industry.gov.au/publications/voluntary-ai-safety-standard.
16. Supporting Responsible AI: discussion paper. https://consult.industry.gov.au/supporting-responsible-ai.

Australia's Safe and Responsible AI Guardrails Initiative

The government's objective with the recently released Voluntary AI Safety Standard and Proposals Paper for "Introducing Mandatory Guardrails for AI in High-Risk Settings" is to promote the safe and responsible development and deployment of AI across Australian society and the economy, while also encouraging innovation. The regime aims to promote good governance practices across all AI development and deployment, with mandatory guardrails only applying to AI in high-risk settings.

The regime also aims to bring a more consistent approach to the issues raised by AI across all Australian jurisdictions. The proposed Australian regime has adopted the internationally recognized definition of AI from the Organization for Economic Cooperation and Development (OECD). Since AI development and deployment is occurring in a global context, consistent terminology is a fundamental element of promoting a shared understanding of AI, as like-minded jurisdictions seek to address substantially the same issues and concerns.

It will be important that any approach to AI regulation anticipates future needs in a technology-neutral fashion. Where mandatory, as opposed to voluntary, guardrails apply, this should only occur where the intended use of AI is in high-risk settings and should be as clearly defined as possible. Specific guidance will also be useful to ensure that mandatory guardrails only apply when an AI system is used to make consequential or significant decisions which detrimentally impact on an individual's human rights (such as housing, employment, credit, education, access to essential public and private services, law enforcement, migration and border protection, and the administration of justice and democratic processes). The European Union's AI Act provides a useful reference for greater specificity in terms of high risk uses, and also excludes research models.

Establishing an AI Governance Office

To ensure coherent and ethical AI implementation across government agencies, they should establish a dedicated AI Governance Office. This office could oversee AI initiatives in government, provide practical and policy advice on AI and data governance, and ensure that ethical considerations such as fairness and transparency are integrated into all AI projects. The office could also provide ongoing oversight to ensure that AI deployments remain aligned with evolving regulations and public expectations. Additionally, this office could serve as a central hub for AI-related policy, fostering collaboration across different government departments and ensuring a unified approach to AI strategy.[17]

17. The Digital Transformation Agency (DTA) has recently moved to help coordinate AI policy across the Australian government. In September 2024, the DTA released a 'Policy for the Responsible Use of AI in Government,' which amongst other things requires all agencies to develop a publicly available statement outlining its approach to AI adoption; ensure that it understands where and how AI is being used within the agency; develop an internal register with this information; and designate accountability for implementing to a specific person or persons within a government agency. The DTA has described this policy as "a first step in the journey to position government as an exemplar in its safe and responsible use of AI, in line with the Australian community's expectations. It sits alongside whole-of-economy measures such as mandatory guardrails and voluntary industry safety measures."

Democratising AI Governance

Government should allow solution owners to maintain, monitor, and govern generative AI solutions while in testing and deployment, to ensure that the set standards are adhered to in real-time to assure agility. This development independence and transparency for governance would reduce the response time between solution owners and the AI Governance Office, allowing for quicker resolution of potential risks and faster approvals for production deployment.

Developing Adaptive AI Governance Models

Agencies should develop adaptive AI governance models that can evolve alongside the rapidly changing landscape of AI technologies. These models should be flexible enough to accommodate new developments in AI, and ensure that the governance framework remains relevant and effective. Such models should also consider the unique contexts in which AI is deployed, recognizing that the role and impact of AI may vary significantly across different government functions and sectors. This approach will ensure that AI governance is not only robust but also capable of responding to the dynamic nature of AI-driven innovation.

Investing in Data Infrastructure and Management

High-quality, well-managed data is the foundation of successful AI initiatives. Government agencies should invest in robust data infrastructure, ensuring data is accurate, secure, and compliant with regulations. This includes modernizing legacy systems to support AI-driven projects and avoid issues related to data homogeneity and copyright. Furthermore, investment in advanced data analytics platforms can enable real-time insights, enhancing the responsiveness and effectiveness of government operations. Emphasizing data interoperability across departments will also improve the integration and utilization of AI systems.

Developing Comprehensive AI Training Programs

To harness the full potential of generative AI, government agencies need to upskill their workforce. Government should implement comprehensive training programs that educate employees on AI technologies, focusing on practical applications and ethical considerations. This will ensure that staff can effectively use AI tools and contribute to innovative AI solutions. Additionally, training should include scenario-based learning to help employees anticipate and address potential challenges in AI implementation. Regularly updating training content to reflect the latest developments in AI will keep the workforce agile and prepared for future advancements.

Promoting a Culture of Innovation and Experimentation

Government should encourage a culture that supports experimentation and innovation within government agencies. Leadership should actively promote and reward creative AI-driven initiatives, particularly those that originate from front-line staff. This approach will help overcome risk aversion and foster bottom-up innovation. It is also essential to provide a safety net for experimentation, ensuring that failures are seen as learning opportunities rather than setbacks. Establishing innovation labs or dedicated teams within agencies can create a structured environment for testing and scaling new AI initiatives.

Implementing AI-Driven Citizen Services

Government should expand the use of AI in citizen-facing services such as virtual assistants and automated document processing. These services can streamline interactions, reduce response times, and improve overall citizen satisfaction. Government agencies should prioritize AI applications that have a direct impact on enhancing public service delivery. Additionally, AI can be used to personalize services based on citizen data, providing more targeted and efficient solutions. Ensuring that these AI-driven services are accessible and user-friendly will be key to their success and public acceptance.

Focusing on Ethical AI Practices

Government should establish clear guidelines for ethical AI use, emphasizing bias reduction, inclusivity, and accountability. The Voluntary AI Safety Standard" and the discussion paper on "Supporting responsible AI" provide comprehensive measures to ensure safe and responsible AI use across government operations.[18] Agencies should regularly review AI models to ensure they align with ethical standards, conducting rigorous testing throughout the AI lifecycle and enabling human oversight to mitigate risks such as bias, data security, and unintended consequences.

Appointing Chief Ethics Officers to oversee AI deployments can further strengthen accountability. In line with these frameworks, agencies should focus on the specific problems that AI can solve, ensuring alignment with public service goals. Transparency in AI decision making, along with mechanisms for public feedback and accountability, is vital for building public trust. Together, these measures promote responsible AI use across government operations while meeting regulatory standards.

Leveraging AI for Strategic Decision Making

Use AI to support strategic decision making processes within government. AI can provide valuable insights through scenario planning, predictive analytics, and real-time data processing, helping policymakers make informed decisions that enhance public value. Government should scale AI solutions methodically by prioritizing use cases that demonstrate clear public value and can be effectively scaled across agencies. Additionally, leveraging AI to analyse large-scale trends and data can help government agencies anticipate future challenges and opportunities, making them more proactive in their policy and service delivery approaches.

Enhancing Public Engagement and Transparency in AI Implementation

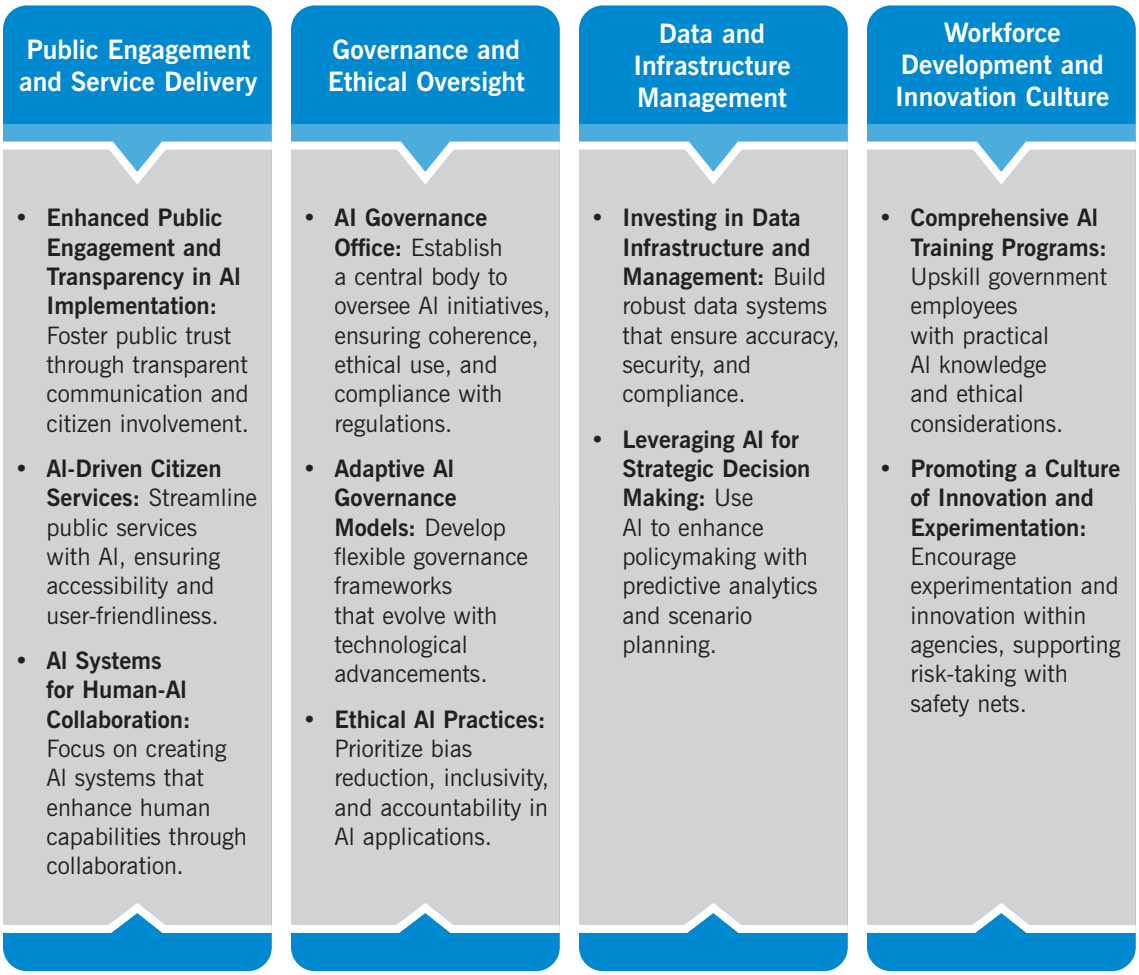
To build public trust and ensure that AI initiatives align with the needs and values of the community, government agencies should prioritize public engagement and transparency in AI implementation. This includes establishing clear communication channels to inform citizens about how AI is being used in government operations, and providing opportunities for public input and feedback. Government agencies should consider creating citizen advisory panels or conducting public consultations to gather diverse perspectives on AI deployments. Additionally, transparency reports detailing the use, impact, and ethical considerations of AI projects should be regularly published to keep the public informed and involved. By actively engaging the public, governments can foster a more inclusive approach to AI integration, ensuring that AI serves the broader interests of society.

18. Supporting responsible AI: discussion paper. https://consult.industry.gov.au/supporting-responsible-ai. Voluntary AI Safety Standard. https://www.industry.gov.au/publications/voluntary-ai-safety-standard.

Designing AI Systems for Human-AI Collaboration

Government agencies should focus on designing AI systems that enhance human capabilities through collaboration, rather than simply automating tasks. By emphasizing human-AI synergy, these systems can lead to more innovative solutions and improved decision making. Training programs should be adapted to help employees understand and leverage this collaborative potential, ensuring that AI is seen as an enabler of human ingenuity and not a replacement. Figure 3 summarizes the preceding recommendations.

Figure 3: Strategic Pathways for Integrating Generative AI in Government



Conclusion

Generative AI holds immense potential to transform government operations, offering innovative solutions that can enhance efficiency, improve decision making, and elevate citizen services. As government agencies increasingly embrace digital transformation, the integration of AI is not just an opportunity but a necessity for staying ahead in a rapidly evolving technological landscape.

This report has identified key themes and obstacles that government agencies must navigate to fully harness the benefits of generative AI. From ensuring robust data governance and ethical AI practices to fostering a culture of innovation and continuous learning, the path to successful AI integration is complex but achievable. By addressing these challenges with a strategic and thoughtful approach, government agencies can leverage AI to deliver public value in ways that were previously unimaginable.

Moreover, the adoption of AI in government must be underpinned by a commitment to transparency, public engagement, and ethical accountability. As AI systems take on more significant roles in public administration, it is crucial that they are designed and implemented with the public's trust and confidence in mind. This includes not only mitigating biases and ensuring fairness but also actively involving citizens in the AI journey through open communication and opportunities for feedback.

The recommendations provided in this report offer a roadmap for government agencies to navigate the complexities of AI integration. Establishing an AI Governance Office, investing in data infrastructure, promoting a culture of experimentation, and enhancing public engagement are all critical steps toward realizing the full potential of AI in government. Additionally, comprehensive training programs will equip the workforce with the skills needed to effectively manage and utilize AI technologies, ensuring that human capabilities are augmented rather than replaced.

The Australian government has commenced this process and has recently released the Policy for the Responsible Use of AI in Government, the National Framework for the Assurance of Artificial Intelligence in Government, a Voluntary AI Safety Standard, and a Proposal for introducing Mandatory Guardrails for AI in High-Risk Settings. These are important steps on the journey to position government as an exemplar in its safe and responsible use of AI.

As government agencies move forward with AI adoption, it is important to remember that the success of these initiatives hinges not just on the technology itself but on the people, processes, and principles that guide its use. AI should be seen as a tool that, when combined with human ingenuity, can drive meaningful improvements in public service delivery and policymaking. By maintaining a clear focus on ethical considerations and public value, government agencies can ensure that AI serves as a force for good, improving the lives of citizens and strengthening the fabric of society.

About the Author

Professor Dr. Alexander Richter
Wellington School of Business and Government
Victoria University of Wellington

Email: alex.richter@vuw.ac.nz

Professor Alexander Richter, specializes in the transformative impact of IT in workplace settings, aiming to enhance organisational efficiency and employee wellbeing. His current research focuses on human-AI collaboration, highlighting the role of context, adaptive practices, and ethical considerations.

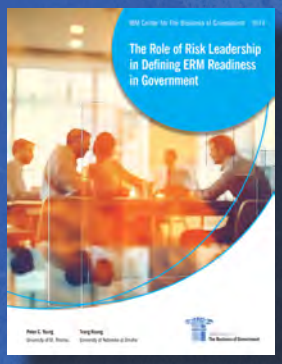
He has published more than 100 articles in leading academic journals and conferences, which have been cited more than 9000 times, awarded with several best paper awards and covered by many major news outlets. He also regularly publishes in practitioner outlets and in collaboration with organisational leaders.

A proponent of engaged scholarship, Professor Richter has successfully acquired and led projects funded by the European Union as well as national governments and organizations in Germany, Switzerland, Denmark, Australia and the USA, focusing on the sociotechnical design of digital workplaces that foster innovation and efficiency.

Acknowledgments

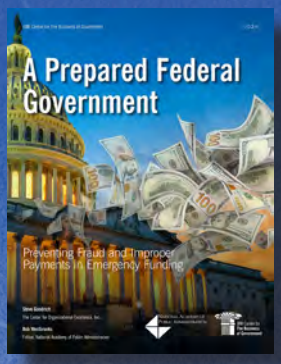
Thank you to Paul Cush for contributing the case vignette and to Alexander Christian Voss Hansen, Madeeha Omer, Alexandra Kelly, and Kaaren Koomen for providing feedback and input to the report.

Recent Reports from the IBM Center for The Business of Government



The Role of Risk Leadership in Defining ERM Readiness in Government

by Peter C and YoungTrang Hoang

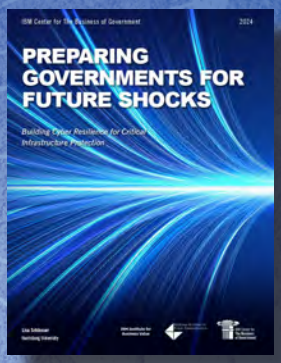


A Prepared Federal Government: Preventing Fraud and Improper Payments in Emergency Funding

by Steve Goodrich and Bob Westbrooks

Opportunities for Management when Budgeting

by Steve Redburn

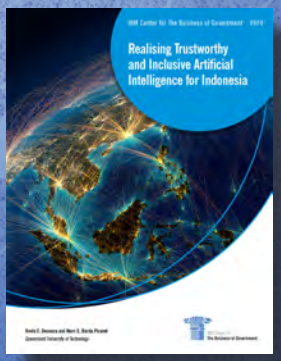


Preparing Governments for Future Shocks

by Lisa Schlosser

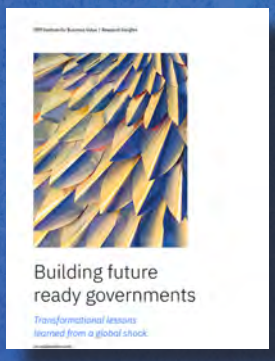
AI and the Modern Tax Agency

by Caroline Bruckner and Collin Coil



Realising Trustworthy and Inclusive Artificial Intelligence for Indonesia

by Kevin C. Desouza and Marc E. Barda Picavet



Building future ready governments - Transformational lessons learned from a global shock

by Cristina Caballe Fuguet, Kee Won Song and David Zaharchuk

Building On Regulatory Foundations and Bridging to the Future

by Dan Chenok and Susan Dudley

For a full listing of our reports, visit businessofgovernment.org/reports

About the IBM Center for The Business of Government

Through research stipends and events, the IBM Center for The Business of Government stimulates research and facilitates discussion of new approaches to improving the effectiveness of government at the federal, state, local, and international levels.

About IBM Consulting

With consultants and professional staff in more than 160 countries globally, IBM Consulting is the world's largest consulting services organization. IBM Consulting provides clients with business process and industry expertise, a deep understanding of technology solutions that address specific industry issues, and the ability to design, build, and run those solutions in a way that delivers bottom-line value. To learn more visit ibm.com.

For more information:
Daniel J. Chenok
Executive Director
IBM Center for The Business of Government

600 14th Street NW
Second Floor
Washington, D.C. 20005
(202) 551-9342

website: www.businessofgovernment.org
e-mail: businessofgovernment@us.ibm.com

Stay connected with the IBM Center on:.

IBM Center for The Business of Government