Written evidence submitted by Dr Doug Specht (UAIG0007)

The adoption of artificial intelligence (AI) in government presents both significant opportunities and potential risks. This evidence document examines key considerations for the UK Government as it explores AI implementation across various sectors.

Opportunities

AI tools have demonstrated the ability to streamline time-consuming tasks, potentially allowing government employees to focus on higher-value work. For example, in higher education, generative AI has been used to assist with course planning, saving time for educators (Specht and Saunders, 2024). Similar efficiencies could be realised in government processes.

The adoption of Generative AI (GenAI) in educational settings has shown significant potential for enhancing efficiency and saving time for both educators and students. This technology can streamline various time-consuming tasks, allowing for more focus on high-value educational activities. One of the primary areas where GenAI demonstrates increased efficiency is in planning and content creation. Educators can use these tools to quickly generate initial drafts of course materials, lesson plans, and assessment rubrics (Lee et al., 2023). This capability allows teachers to spend less time on routine administrative tasks and more time on refining and personalising content for their students. GenAI tools have also proven valuable in providing rapid feedback to students. These systems can analyse student work and generate detailed, constructive feedback in a fraction of the time it would take a human educator (Wang et al., 2024). While this feedback should always be reviewed and supplemented by the instructor, it can significantly reduce the time spent on initial assessments. Furthermore, GenAI can assist students in their learning process, potentially reducing the time needed for certain tasks. For instance, these tools can help students quickly summarise complex texts, generate research questions, or provide explanations of difficult concepts from multiple perspectives (Gimpel et al., 2023). This support can lead to more efficient study practices and potentially faster comprehension of course material.

It is possible to extrapolate from these examples and practices already embedded in Higher Education to suggest ways in which AI might be adopted by the UK Government.

Lessons from Higher Education

AI can analyse large datasets quickly, potentially improving the quality and speed of government decision-making. The integration of Generative AI (GenAI) in educational settings has demonstrated significant potential for enhancing decision-making processes across various aspects of teaching and learning. This technology can analyse vast amounts of data quickly and efficiently, providing educators and administrators with valuable insights to inform their choices.

One of the key areas where GenAI demonstrates its capacity for enhanced decision-making is in the creation of assessment materials. For instance, at the University of Westminster, AI has been used to generate assessment rubrics and authentic assessment tasks (National Centre for AI, 2024). This application of GenAI not only saves time but also ensures consistency and objectivity in assessment criteria, potentially leading to fairer evaluations of student work.

GenAI can also support decision-making in curriculum design and planning. By analysing trends in student performance, industry requirements, and emerging fields of study, AI tools

can provide recommendations for curriculum updates and new course offerings (Specht and Saunders, 2024). This data-driven approach can help institutions stay ahead of educational trends and better prepare students for future career demands. Furthermore, GenAI can assist in creating personalized learning pathways. By analysing individual student data, including performance, learning styles, and preferences, AI systems can recommend tailored learning resources and activities. This personalization can lead to more effective learning outcomes and improved student engagement. As noted by Specht and Saunders (2024), there is promising potential in using generative AI to personalize learning experiences. Similarly, personalisation of government responses to public, enquiries and large datasets can be enhanced using GenAI, allowing for tailored responses and applications that better meet the needs of individuals.

In the realm of institutional management, GenAI can aid in resource allocation decisions. By processing complex datasets on student enrolment, faculty workload, and facility usage, AI tools can provide insights for optimizing resource distribution across departments and programs. This can lead to more efficient use of institutional resources and improved overall educational outcomes. This again can be extrapolated to the government to provide workforce planning, workload allocations, streamlining appointments and ensuring that time is used in its most efficient way by the UK government.

However, it's crucial to note that while GenAI can significantly enhance decision-making processes, human oversight remains essential. Administrators must critically evaluate AI-generated recommendations, considering ethical implications and potential biases in the data or algorithms used. As Lee Hall from Northumbria University points out, we should always feel in control while using AI with the ability to decide which features are used in which contexts (National Centre for AI, 2024).

The integration of Generative AI (GenAI) in educational settings has also opened new possibilities for delivering personalised services to students. This technology has the potential to revolutionise the way education is tailored to individual needs, enhancing learning outcomes and student engagement. The advances being made in Higher Education could also pave the way for improved government personalisation and response.

One of the primary areas where GenAI demonstrates its capacity for personalisation is in adaptive learning. By analysing individual student data, including performance, learning styles, and preferences, AI systems can recommend tailored learning resources and activities (Gimpel et al., 2023). This level of personalisation can lead to more effective learning outcomes as students engage with content that is specifically suited to their needs and learning pace. GenAI can also support the creation of personalised learning pathways. For instance, at the University of Westminster, there is growing interest in using AI to tailor learning experiences to individual students (Specht and Saunders, 2024). This approach allows for a more flexible and student-centred educational experience, where learners can progress through material at their own pace and in a way that best suits their learning style. Furthermore, GenAI can assist in providing personalised feedback to students. These systems can analyse student work and generate detailed, constructive feedback in a fraction of the time it would take a human educator (Wang et al., 2024). While this feedback should always be reviewed and supplemented by the instructor, it can significantly reduce the time spent on initial assessments and provide students with more immediate guidance.

How the UK Government might implement this learning

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The UK government has already begun work on a strategy for AI adoption in the public sector, with aims to make the UK a world leader in safe and responsible AI use. This strategy could be further developed and implemented across all government departments. The UK government could integrate similar ideas for adopting generative AI in the public sector in several ways:

1. Enhance citizen services: Generative AI could be used to improve citizen interactions with government services, such as:
   - Creating AI-powered chatbots to answer common questions and provide information about government services.
   - Developing virtual assistants to help citizens navigate complex government processes and regulations.
   - Using AI to personalise services and proactively reach out to potential beneficiaries of government programs.
2. Increase internal efficiency: The government could use AI to:
   - Streamline administrative tasks and reduce bureaucratic burdens.
   - Improve onboarding processes for new employees.
   - Enhance interdepartmental communication and knowledge sharing.
3. Leverage AI for data analysis: Generative AI could be used to analyse vast amounts of government data, helping to identify patterns, make connections between different domains, and inform policy decisions.
4. Create an AI content store: Like the £3 million "content store" planned for education, the government could create a centralised repository of data and content to train AI models for various public sector applications (Schools Week, 2024).
5. Establish clear guidelines and ethical frameworks: The government should develop comprehensive guidelines for the ethical and responsible use of AI in public services, addressing concerns such as data privacy, bias, and transparency.
6. Invest in AI education and training: Provide training and resources for public sector employees to effectively use and understand AI technologies.
7. Foster innovation and experimentation: Encourage government departments to pilot AI projects and share best practices across the public sector.
8. Address barriers to adoption: Focus on overcoming challenges such as legacy systems, data access, and sharing to enable wider AI adoption.
9. Collaborate with the private sector: Partner with AI companies and researchers to develop tailored solutions for public sector needs.
10. Ensure transparency and accountability: Implement measures like the Algorithmic Transparency Recording Standard (ATRS) to document and explain how AI is being used in government decision-making (Department for Science, Innovation and Technology, 2024).

By implementing these strategies, the UK government could harness the potential of generative AI to transform public services, increase efficiency, and improve citizen experiences while maintaining a focus on responsible and ethical use of the technology.

Risks

1. **Data Privacy and Security**

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The use of AI in government raises significant privacy concerns. As seen in higher education, institutions must carefully consider which AI features to implement and how to protect sensitive data (Specht and Saunders, 2024). Government agencies handling citizen data would need robust safeguards.

2. Ethical Concerns

There are ethical considerations surrounding AI use, particularly regarding fairness and transparency. Northumbria University has developed AI tenets to guide responsible use, highlighting the need for clear ethical frameworks in AI adoption (Specht and Saunders, 2024)

3. Over-Reliance on AI

Over-reliance on AI is risky, potentially diminishing human expertise and decision-making. In education, there are concerns about maintaining the role of human educators. Similar concerns would apply to government, where human judgment and accountability are crucial.

Conclusion

While AI presents significant opportunities for improving government efficiency and services, careful consideration of the risks is essential. By implementing thoughtful policies and maintaining a focus on ethical use, the UK Government can harness the benefits of AI while mitigating potential drawbacks. The UK government should look to other sectors, such as Higher Education, which are already working to implement AI policies, strategies and uses.

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Biography

Dr Doug Specht is a cultural geographer and educationalist. His research explores themes related to environmental justice, human rights, and access to education, with a focus on the production and codification of knowledge though cartographic artefacts and in educational settings. In recognition of his work, he has been appointed as a Chartered Geographer and Chartered Teacher. In addition, he has been awarded Advanced Teacher Status, alongside being a Senior Fellow of AdvanceHE. Dr. Specht has authored numerous articles and books, including Mapping Crisis, the Routledge Handbook of Geospatial Technology and Society, the Media and Communications Student Study Guide and Imagining Apocalyptic Politics in the Anthropocene. He writes regularly on ethics, environmental and human rights, education, and mapping practices in such publications as WonkHE, The Conversation, Geographical, and for Times Higher Education.

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