

11. Technology

11.1 What is it?

With the increasing speed, volume and complexity of data, it is becoming more and more challenging for humans to manage and use data in a cost-efficient and timely way. Although technology is not a solution on its own, it can be a significant enabler of data governance by simplifying and automating data management practices. When used appropriately, the right tools can assist with data monitoring and management, data security and privacy protection, and data lineage tracking. Tools can also be used to improve the quality of the data with automated validation, data cleansing and data enrichment.

11.2 Why is it important?

Data governance systems that rely heavily on humans to manually manage and monitor data, face much higher risks than systems that automate data management practices. Despite good intentions, human error almost inevitably creeps into data processes. These errors can lead to false and duplicated information, and ultimately undermine the agency's data governance efforts. While automating data governance won't remove the risks of this entirely, it can help agencies discover, manage and monitor these risks more easily. Technology solutions can also increase operational efficiency by freeing staff from manual, time-consuming and inefficient processes.

11.3 What good looks like

- **Automated:** data governance policies and processes and data management workflows are automated, where appropriate.
- **Enterprise-wide:** technologies break down organisational data silos and are implemented enterprise-wide, where appropriate.
- **Interoperable:** technologies support standard formats allowing interoperability across the organisation.
- **Secure:** technologies are compliant with security standards and ensure the privacy and protection of data holdings and use.

- **Future-proofed:** agencies consider their potential future needs as well as changes in regulations, technologies and other factors when selecting tools.

11.4 How to achieve good practice

- **Adhere to the “people and process before technology” approach** by ensuring that data governance processes are well-defined before they are automated with technologies.
- **Assess the current state technical capabilities and architecture of the organisation** and identify and prioritise focus areas for improvement and automation.
- **When selecting technologies to support data governance efforts, agencies should consider:**
 - Is it open source, scalable, and easy to integrate with the organisation’s existing business processes?
 - Does it meet government standards regarding data sovereignty, privacy, and cyber security?
 - Can it provide effective data quality management (i.e. rules, profiling, reporting)?
 - Does it provide metadata support for document information security classification and data lifecycle management?
 - Does it assign and manage data governance roles and responsibilities?
 - Can you define and manage data management workflows and track progress of data governance activities?
- **Gain buy-in from the intended users of the technology before implementing it.**
For a data governance tool to be effective, the staff using it must believe in the business value of the tool.
- **Ensure the implementation of the tool is accompanied by education, training, documentation and technical support.**
- **Ensure ongoing monitoring and maintenance of tools.**