

Better Information for Better Government

18 January 2017

Cabinet Office Digital Records and Information Management Team, working in collaboration with
The National Archives and Government Digital Service



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Executive summary

Managing information is critical for good government. Internally, information is the foundation of effective analysis and policy making. It provides the evidence to support decision making and it is a critical enabler of efficiency. Externally, it supports accountability of both civil servants and ministers through publications, audit, parliamentary scrutiny, freedom of information and ultimately through open public records. Information is one of the core assets of government. Like other assets, it needs to be managed well if we are to get best value from it.

When information was predominantly held on paper, government was generally good at managing it. Files and filing were at the centre of how work got done: they were intrinsic to the flow of work, not an overhead on it. As a result, information could be organised and preserved and the lifecycle from initial creation through to long-term preservation and presentation was robust.

As Sir Alex Allan noted in his 2015 Review of Government Digital Records, the transition from paper-based working to email and electronic documents undermined the rigour of information management across much of government.¹ While little information has been lost altogether, much of what has accumulated over the past fifteen to twenty years is poorly organised, scattered across different systems and almost impossible to search effectively. This not only undermines government's ability to structure and preserve long-term records, it also creates real and immediate risks for accounting officers, who may be unable to provide evidence for past decisions and actions or to meet their statutory obligations for public records and freedom of information.

There is an immediate need to improve the organisation and management of departments' accumulated digital records. Fortunately, the tools and techniques for doing so have improved rapidly in recent years and some departments are already making effective use of them. All departments need to be confident that they understand their digital information assets and have clear plans to ensure that they are managed in a way that addresses short term needs and risks and also supports long term preservation.

There is also a need – and a great opportunity – to prevent the problem continuing to build up in future. The same tools and techniques will provide some help here too. The solution is primarily in the culture and work practices of the civil service. There needs to be clear accountability for information, as there is for other assets. Working practices need to recognise and value good information management with effective professional support for teams and projects. Getting information management right from the outset will deliver short term value through making better use of existing information and expertise and in doing so will deliver longer term value in managing information risks and creating a solid foundation for maintaining public records.

This report, along with the programme of activity it describes, is the government's response to Sir Alex Allan's review. It sets an agenda for change and notes wider, structural issues that require further attention. As all departments are different, a single top-down approach will not succeed. Our focus is now on developing collaborative approaches across both departments and professional disciplines. We aim to test solutions and to promote the adoption of those which prove most effective.

¹ Sir Alex Allan (2015), 'Review of Government Digital Records', https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/486418/Report_-_Digital_Records_Review.pdf p. 1

1. The importance of effective information management

“Good record management,” wrote Sir Alex Allan, “is essential for good government”.² Information, the raw material from which records are made, is the fuel that keeps government running. Emails, documents, presentations and spreadsheets: all of these and more are a prerequisite of policy development, decision making, implementation and achieving outcomes. The business of government is fundamentally information-based and the value of the civil service comes largely from the accumulated value of the information that it holds.

This information is often dispersed and unstructured. It sits on computer hard drives; central servers; in paper files in lockers and, with knowledge, in the minds of civil servants. When it is filed it can become a record: something retained for its longer term value and, if selected, transferred to The National Archives. The concept of the public record reflects widespread agreement that the information that the civil service creates is potentially valuable not just in the moment but also for future generations.

There is an expectation from Parliament and citizens that the civil service should treat its information with due care. This includes protecting information collections (whether personal data or sensitive material) and safeguarding material that will enable lines of accountability and responsibility to be determined in future. This follows from the unique role of the civil service in society: unlike a private sector consultancy or other non-governmental information-based organisation, the civil service is directly accountable to citizens and the information that it holds is the main conduit for ensuring accountability can be achieved.

The Civil Service Code and current legislation reflect this expectation.³ The Public Records Act 1958 (PRA), the Data Protection Act 1998 (DPA), the Freedom of Information Act 2000 (FOI Act) and the Re-use of Public Sector Information Regulations 2015 provide the legal framework for all civil service information activity. Together they place limitations and boundaries on what can be collected and held; what should be retained and released; what should be made available on request; and how material can be used and reused. Government departments and specifically their Accounting Officers are responsible before the law for compliance with each of these and the Lord Chancellor’s Code of Practice on the management of records is currently the main route to guidance on how compliance can be achieved.⁴

To meet their statutory requirements departments are required to manage their information in a systematic way. This is done on a department-by-department basis, under the guidance and supervision of the Chief Executive of The National Archives and Keeper of Public Records, through a combination of activity by generalist staff and a cadre of Knowledge and Information Management professionals. Information management serves two purposes: providing structure and oversight for departments’ information and ensuring effective maintenance of the public record. It also serves a third purpose that is not driven by compliance concerns: deriving day-to-day value from government information.

² Ibid. p. 2

³ The Civil Service Code (2015), <https://www.gov.uk/government/publications/civil-service-code/the-civil-service-code> (Information management is in the Integrity section)

⁴ Ministry of Justice (2000), ‘Lord Chancellor’s Code of Practice on the management of records issued under section 46 of the Freedom of Information Act 2000’ <http://webarchive.nationalarchives.gov.uk/20150730125042/http://www.justice.gov.uk/downloads/information-access-rights/foi/foi-section-46-code-of-practice.pdf>

Being aware of our information collections

To be fully compliant with legislation it is vital that departments are aware of what information they hold, who created it and at what time. It is impossible to release a document safely without knowing what is within it or to protect an individual's data without knowing where it is held. Robust information management is designed to provide assurance that departments are sufficiently aware of their information collections and are therefore storing and accessing it in an appropriate manner.⁵

The information the civil service gathers and generates is also evidence that may be required to respond to legal proceedings or Parliamentary scrutiny. Inquiries (e.g. judicial reviews) can ask departments for details of their information collections on a specific topic or over a given time period. If departments are unable to respond accurately this fact will be disclosed at or before Inquiry reports. Sir Alex Allan noted how departments have had difficulties complying with Inquiries due to problems identifying and evaluating the information that they hold.⁶

Departments are also expected to comply with audits by the National Audit Office and the Government Internal Audit Agency. During 2015-16, the National Audit Office conducted 43 investigations, delivered 65 reports and audited 368 sets of accounts across government and the Government Internal Audit Agency carried out more than 19,806 days of audit work across all departments.⁷ These audits can be made more efficient and effective if departments are able to find information on relevant topics in a timely manner.

Maintaining the public record

In the longer term, some government information will be transferred to The National Archives and released under the twenty-year (formerly thirty-year) rule.⁸ Over the twenty years between creation and release to the public (or retention or destruction), all government information goes through a process of information management. This process, set out in detail and monitored by The National Archives has been designed to ensure that records which are likely to have historical value are retained indefinitely and that sensitive material is not inappropriately released.⁹

The responsibility for day-to-day information management now falls largely to civil servants themselves. All are required by the Civil Service Code "to keep accurate official records" and the Cabinet Manual sets out how departments and civil servants should handle information, including ministerial and official records.¹⁰ KIM professionals play an advisory and support role (helping civil servants structure, name and file their documents) and provide expert guidance on the management of information and its review and transfer to The National Archives as documents approach the twenty-year point.

⁵ This report does not go into significant detail on information security and assurance, which is a linked but separate discipline. The project team have been working closely with Cabinet Office colleagues working on these topics

⁶ 'Review of Government Digital Records' (2015), p.1

⁷ National Audit Office (2016), "Annual Report and Accounts 2015-16", p.11 <https://www.nao.org.uk/wp-content/uploads/2016/06/NAO-Annual-Report-2015-16.pdf>;

Government Internal Audit Agency (2016), "Annual Report and Accounts 2015/16", p.4 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/534352/160629_Annual_Report_Accounts_GIAA_2015-16-FINAL_Web_PDF.pdf

⁸ Increasingly contemporaneous digital material is also being transferred and made available for public use.

⁹ The National Archives (2016), 'How to manage your information', <http://www.nationalarchives.gov.uk/information-management/manage-information/>

¹⁰ The Civil Service Code; The Cabinet Manual (1st Edition, 2011)

https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/60641/cabinet-manual.pdf

Drawing value from information assets

Effective information management is also fundamental to the preservation and utility of corporate memory. Corporate memory (the accumulated knowledge of a department) ensures that civil servants learn effectively, preventing the repetition of failed policies and superfluous activity. To get value from corporate memory, organisations need to proactively manage their information assets and enable access to them for day-to-day use.¹¹ Without this activity, it follows that government will be less efficient and productive. Information management can therefore also be seen in the broader context of creating a more efficient and dynamic civil service where all available resources are used to maximum effect.

Information management is a critical part of core civil service business. Its importance is not affected by the format, location and composition of the information concerned. The character and extent of information management activity (who does it, what tools are required and what procedures should be followed and when) *does* change depending on the information format. Over the past decade or more, the format of government information has changed fundamentally: departments have moved from a world where most information was held on paper to a world where almost all information is held digitally. This has completely changed the concept of information and records, as well as what constitutes effective information management.

¹¹ The concept of information as a corporate asset is set out in Managing Public Money, which lists data and information among “intangible assets”. HM Treasury (2015), ‘Managing public money’, Annex 4.15
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/454191/Managing_Public_Money_AA_v2-jan15.pdf

2. The digital challenge

From paper to digital: The current state of government information management

Information management before computers were common

The image of the civil service clerk pushing paper around the bureaucracy is a well-worn cliché. Thirty years ago this image still rang true: departments generally conducted their business in hard copy and had all the infrastructure required to do business in that way. This included mail systems, typing pools, filing cabinets, strict naming conventions and clerks to manage paper work flows.

Paper ways of working made information management reasonably straightforward: records were a tangible asset which physically resided in one place only. When a file's short-term business value came to an end the author or owner would take a view on its long term value and either destroy it or transfer it to the relevant archive within the department. At the thirty-year stage KIM professionals would select what needed to go to The National Archives (destroying what was now superfluous) and then review selected documents before either storing them locally in a secure holding (if they continued to be highly sensitive) or transferring them to The National Archives open or closed, if of lesser sensitivity. The system was not perfect. It required individual civil servants to file their materials or work with clerks and it required human reviewers to check all paper documents for sensitivity (an imperfect process in itself). But the parameters and constraints of the system were reasonably clear.

Most current information management concepts remain a legacy of the paper era. KIM professionals are still (given the thirty-year, now twenty-year rule) dealing with paper documents and their transfer to The National Archives. So the idea of a "file" containing a number of paper records regarding a specific issue is still with us. The processes for information management reflect this. For example, transfer of paper records to Kew remains a physical act, with paper moving from a departmental repository to the public archive.

Towards digital

Though some departments began to use computers in a limited way in the 1980s, it was during the early-1990s that general civil service activity began to transition away from paper. Civil servants started to conduct daily business digitally and government information was increasingly created in digital formats. Over time, paper memos became emails; reports were created in word processors or presentation software; and internal paper mail services were reduced. A visible effect of this was the reduction in clerical work in policy departments. Computers have enabled the civil service to reduce in size and shape significantly as traditional administrative roles have been transformed.¹²

The move to digital was not sudden and complete. Some departments adopted digital technology before others.¹³ As a result, the way information management was done was not re-assessed as computers were introduced and the concept of records, files and transfer to The National Archives was retained. Departments therefore continued with previous practices but amended them for the digital age. Some adopted "print-to-paper" policies, meaning that digital information became a paper record. Others introduced early Electronic Document and Records Management (EDRM)

¹² Petr Bouchal (2014), 'The shape of the Civil Service: remaking the grade', The Institute for Government <http://www.instituteforgovernment.org.uk/blog/9295/the-shape-of-the-civil-service-remaking-the-grade/>

¹³ 'Review of Government Digital Records' (2015), p.5

systems which had limited functionality at the time and asked users to store key documents in a particular place with mixed success.¹⁴

Born digital

The move to digital accelerated as processing power and Internet speeds increased in the 2000s. In general, departmental business was conducted digitally by the middle of the decade, with email, Internet browsing and word processing becoming ubiquitous.

Government information management did not keep pace with this change. Departments continued with processes designed for the paper age (many continued with print-to-paper until the mid-2000s and some print-to-paper practices still persist) or asked staff to take time out from daily work to identify specific emails or documents to transfer to EDRM systems, against the grain of how civil servants went about their business. It also became less clear what constituted valuable information: emails in part replaced phone calls as well as memos so inboxes included increasing amounts of ephemera such as meeting requests, out-of-office messages and junk.

This resulted in a reduction in information management activity at a time when the amount of information generated by government dramatically increased. As individuals, civil servants realised that saving digital information was important but they did this themselves, in their own way, rather than using departmental systems. Some departments forced staff to manage information by closely restricting where and how much information could be saved (e.g. email inbox size) but others had few restrictions meaning that information accumulated in an unstructured way and became fragmented on personal drives, shared drives and email folders.¹⁵

Only now, a decade later, is government beginning to understand the implications of this systemic information management failure. Sir Alex Allan's review of digital records described how many departments now have significant collections of unstructured legacy digital information.¹⁶

Risks to departments from large volumes of digital legacy information

Holding on to large volumes of digital material that has accumulated over time in an unstructured way poses a serious compliance risk. In order to meet their statutory requirements under the DPA, PRA and FOI Acts, it is vital that departments understand the information that they possess and handle it appropriately.

There is also a significant risk that departments are unable to respond to Inquiries in a timely and accurate fashion. Finding material within legacy digital collections can be like searching for a needle in a hay stack. This can result in reputational as well as legal risk. As Sir Alex Allan noted, "There have in the past been a number of embarrassing incidents where it has transpired that initial government evidence to inquiries or courts was incomplete and further searches have found additional relevant material that needed to be submitted".¹⁷

Unstructured legacy digital information also poses a potential operational risk to departments. It can contain documents critical to ongoing business that were created by an individual who has since left the department. Without the ability to access or search across legacy collections, there will always be a chance that business-critical information will be unavailable at the time it is required.

¹⁴ Ibid. p.5

¹⁵ Ibid. p.5

¹⁶ "The result has been that, while EDRMS and corporate file plans contain a portion of what should be departments' official records, a large portion has remained stored in users' personal or shared drives or email in-boxes." Ibid. p.5

¹⁷ Ibid. p.5

The lost efficiency opportunity

Holding large amounts of unstructured digital material in an inaccessible way also presents a significant opportunity cost to government. Legacy information, if put to good use, can potentially increase civil service efficiency at a time when financial and human resources are constrained.

Information management and the efficiency agenda

The civil service has reduced in size by over a fifth since 2010.¹⁸ This makes effective information management even more important: the accumulated knowledge of those leaving departments is valuable and, if gathered and deployed correctly, can mitigate some of the operational risks arising from their departure. Remaining staff are also required to work more efficiently and effectively and access to legacy digital information can help them increase productivity by reducing the time spent looking for previous work or identifying those involved in a particular project.

Preventing “re-inventing the wheel”

Access to searchable digital legacy information can also prevent civil servants recreating previous policy ideas that do not work or inventing new solutions that are not actually new (known as “re-inventing the wheel”). Culturally, civil servants often feel obliged to start from first principles but for an individual embarking on a new policy project the ability to search for those who have completed similar work before and what they found out could prevent wasted effort. Departments’ unstructured legacy digital information makes this difficult. Estimates suggest that wasted effort re-creating old work might cost government nearly £500m per year.¹⁹

The value of information assets

There are also likely to be opportunities for government if departments are able to harness the “big data” potential of their information. Data science is an emerging field but there are likely to be policy benefits if government can use the large amount of information it holds to understand networks within departments or how the policymaking process works in practice. If we are unable to interrogate legacy digital information collections (due to dispersed information across platforms or insufficient naming of documents) this will not be possible.

It is clear that government faces significant risks from departments’ accumulated legacy digital information and is unable to get any benefit from it. The immediate challenge, therefore, is to find a way to manage these risks while unlocking the value of legacy collections for the benefit of civil servants and citizens alike.

¹⁸ Since March 2010, headcount has reduced by 99,000 Full Time Equivalent staff. After accounting for machinery of government changes the civil service has reduced by 23%. Civil Service (2016), 'Civil Service headline workforce information', <https://www.gov.uk/government/publications/civil-service-headline-workforce-information>

¹⁹ Hypothetical project team estimate based on industry figures for time spent recreating content in other organisations. Figure is not based on actual civil service working practices.

3. Addressing government's digital information legacy

Though the challenge posed by government's digital information legacy cannot be overcome by quick fixes or a one-size-fits-all solution, it is not insurmountable. Evidence from departments, the Government Digital Service, the KIM community and previous work by The National Archives suggests that there is a range of options available to individual departments, though some are more feasible than others.

Options for dealing with legacy digital collections

Continuing paper-era processes

Departments might choose to manage their legacy information by continuing knowledge and information management practices developed in the paper era. This would involve relying on information management specialists to process all digital records held in departmental repositories manually. In most cases, this approach is unlikely to be practical because of the significant volume of legacy information held by departments: some have more than 100 terabytes of information within their systems, roughly equivalent to 1 billion emails.²⁰ To process this many documents manually would require a significant increase in staff and would not be cost effective. Research examined by The National Archives also suggests that reviewing documents manually (e.g. for sensitivity) is not necessarily more accurate than review assisted by technology.²¹

Keeping everything

Departments could move to an information management model where all legacy (and indeed future) digital information is retained, by default, regardless of value. There are obvious benefits to this: it would remove any burden on the part of general civil servants to perform information management tasks and it would provide an opportunity for government to use analytical tools on a rich dataset at scale (assuming the information could be prepared for analysis in line with big data techniques). Departments have, to this point, been holding significant digital legacy collections on their systems so there does not appear to be any operational reason why this cannot continue indefinitely. The United States' Government and the National Archives and Records Administration (NARA) use a conceptually similar model, Capstone, which involves retaining in full the email accounts of specific senior individuals identified as likely to hold information of potential future value.

Despite the potential benefits, we do not believe Capstone or other wholesale retention approaches can be successfully applied to the UK system, largely for legal reasons.²² Keeping everything indefinitely would contravene the principles set out in the DPA, as the body of information held on government servers would, almost certainly, include personal information. This would likely be in contravention of the DPA requirements that "personal data shall be obtained only for one or more specified and lawful purposes and shall not be further processed in any manner incompatible with that purpose or those purposes" and "personal data processed for any purpose or purposes shall not be kept for longer than is necessary for that purpose or those purposes."²³ Further, the European Union's General Data Protection Regulation that is currently scheduled to

²⁰ Project Team estimate based on industry figures for average email size

²¹ The National Archives (2016) 'The application of technology assisted review to born-digital records transfer, Inquiries and beyond', <http://www.nationalarchives.gov.uk/documents/technology-assisted-review-to-born-digital-records-transfer.pdf>, pp. 24-25

²² Capstone will be discussed further in chapter 4

²³ United Kingdom (1998) 'Data Protection Act', <http://www.legislation.gov.uk/ukpga/1998/29/contents>, p. 48.

replace the Data Protection Act in 2018, will be based on the principles of data minimisation and limitation and storage limitation for personal data.²⁴ Wholesale retention would place the UK at risk of significant fines and risks a regulator ordering processing to cease.

Keeping everything would also make PRA compliance problematic. The PRA states that some information with long term value and worthy of permanent preservation should be transferred to The National Archives or a place of deposit and the rest should be deleted; so keeping everything goes against this principle.²⁵

From a technological perspective, retaining a large body of information indefinitely is possible but not straightforward. Information is not static and digital material needs ongoing management to ensure it remains usable and accessible over time. There is often a need to migrate information between storage facilities or systems during technology upgrades or as part of (for example) machinery of government changes. Migration is not free: it is always a complex process, often requiring the procurement of software, services and expertise. The exact resources required will vary according to a department’s specific requirements but in general costs are driven by the number of different systems where the material is held, where the information is moving to (e.g. cloud or on-premise storage) and the overall approach to migration that is adopted.

Search and data analytics tools

Instead of keeping everything, departments can make use of digital tools to manage their digital legacy collections and get rid of material that is no longer required. These tools can specifically assist with searching, structuring, de-duplicating and identifying specific items.

Given legislative, technological and resource constraints, search and data analytics tools offer a realistic solution to legacy digital information management problems. Not all departments will need to use these tools in the same way or with the same frequency but all will potentially benefit from the increased functionality that they bring.

There are a number of tools available, offering varying levels of functionality (Table 1).

Table 1 Search and data analytics tools functionality overview

Functionality	Search metadata	Search content	Search one collection	Search multiple collections	Apply structure	Remove duplicates	Identify personal sensitive information	Identify non - personal sensitive information
Technology								
Data analytics (e.g. eDiscovery)	✓	✓	✓	✓	✓	✓	✓	?
EDRM / ECM system (e.g. SharePoint)	✓	✓	✓	?	✓			
Search (e.g. Google)	✓	✓	✓	✓				
Windows Explorer (e.g. shared drive search)	✓		✓					

²⁴ European Union General Data Protection Regulation, http://ec.europa.eu/justice/data-protection/reform/files/regulation_oj_en.pdf, p. 16.

²⁵ Public Records Act 1958, <http://www.legislation.gov.uk/ukpga/Eliz2/6-7/51>

The least powerful tools are those packaged within standard operating systems such as Windows, which most government departments currently use. Windows Explorer is the default way to search through folders and shared drives on a Windows system and it is therefore limited: searches are slow (potentially taking days to search large collections) and little insight is offered by results (searches focus on keywords within filenames or date created). It would be difficult for departments using out-of-the-box Windows search tools alone to perform standard information management tasks across their legacy collections or get any significant ongoing value from the information that they hold.

Operating system tools can be supplemented by specifically-designed software capable of more powerful searching across a number of information repositories and drives. These enable quicker and more meaningful searching but they do not place a structure around the information or help with de-duplication and identifying sensitive content. Searches are also still limited to keyword terms.

The next-generation of EDRM systems or Enterprise Content Management (ECM) systems offer a more powerful solution. Many departments already make use of these (or plan to) as part of their new cloud-based technology platforms. The new generation of EDRM systems have progressed a long way from early iterations of similar software. Market leading products now enable departments to make better sense of their digital legacy content, provide central control and visibility and allow searches to be run over the entire body of information. For the most part EDRM systems still cannot help with de-duplication and identifying sensitive content (beyond that which can be identified through keyword searching) but specifications and functionality are increasing all the time and it is likely that modern EDRM systems will meet many departments' needs.

For advanced information management at scale, some departments are likely to need data analytics tools, including eDiscovery software. These tools allow advanced searching beyond keyword terms and can help make sense of large and unstructured information collections. eDiscovery tools emerged from the legal community and forensic document search. They have a proven track record of operating to a high degree of accuracy. They are therefore well-placed to serve departments' needs from a compliance standpoint, with certain limitations such as identifying contextual sensitivities. They can reduce the size of the legacy holding and structure what remains (Figure 1) but their increased functionality and powerful search capability comes at a price: they are significantly more expensive than the other technologies listed here on a per-user basis.

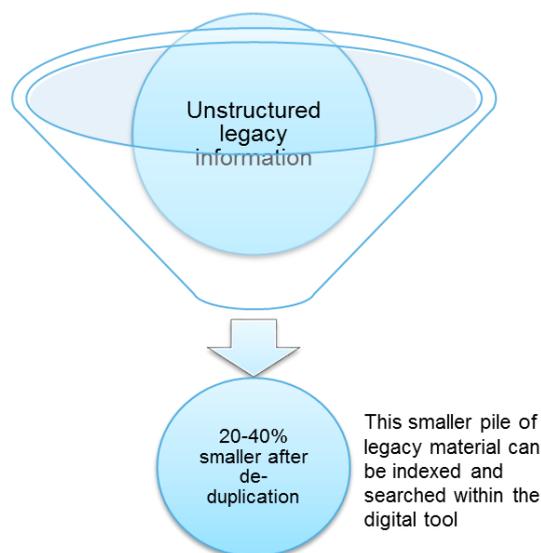


Figure 1 Data analytics approach to managing unstructured legacy information

A number of departments are already using eDiscovery tools to respond to Inquiries and some are testing whether they can be used for processing documents ahead of transfer to The National Archives. Depending on the circumstances, the tools can find specific terms, de-duplicate content and find instances of sensitive material that can be described as a regular expression within documents (such as personal names, bank account numbers and email addresses) as well as looking at, for example, filenames. Data analytics tools can therefore potentially enable technology-assisted checking for sensitive items which can, depending on a department's risk appetite, reduce the number of documents that need to be manually reviewed by humans.²⁶

Data analytics tools are expensive and require specialist users. They are designed to be used by those who are skilled at "training" the tools to search for the correct items. Without such specialists, departments will be unable to get the full value from the technology. If departments decide they need to use eDiscovery tools to manage their legacy digital information (and not all will need them), an in-house solution would most likely focus on a limited number of licences and users. Departments might therefore choose to use other, less expensive tools either instead of or alongside eDiscovery software.

Matching solutions to departments' requirements

Though departments are likely to need a technology solution to effectively manage their legacy digital information, the particular solution they choose will depend on their risk profile and business requirements. No department has yet fully tested the technology in an information management context and we are still learning what is possible in this area. Initial analysis suggests departments fall into one of four clusters, which will inform which technology they choose to use and how.

Significant requirement

A limited number of departments hold substantial, unstructured digital legacy information, of which a large proportion is likely to be sensitive, particularly for reasons of national interest (e.g. security and defence, international relations and economic interests). These departments carry the most risk but are highly risk averse and so face the most significant challenge: data analytics tools will be less effective in a classified environment and will need to be complemented with additional human review, as they are unproven in identifying non-personal sensitive context. Such departments will most likely need to use a combination of powerful data analytics technology (e.g. eDiscovery) and increased human resource to effectively fulfil their PRA and DPA responsibilities. These departments should consider prioritising, at a senior level, activity that prevents significant legacy collections accumulating again, such as introducing EDRM systems and focusing on sustainable solutions.

Sensitivity focus

A small but significant number of departments hold limited volumes of unstructured digital information which is likely to be highly sensitive (including for reasons of national interest). These departments also have a low risk appetite but have less material to review overall. For these departments data analytics (e.g. eDiscovery) tools are best deployed to reduce ephemera and for de-duplication, with human reviewers becoming involved later in the process to identify text within remaining documents that is sensitive because of context.

²⁶ The National Archives (2016), 'The application of technology assisted review to born-digital records transfer, Inquiries and beyond', <http://www.nationalarchives.gov.uk/documents/technology-assisted-review-to-born-digital-records-transfer.pdf>

Volume focus

Most departments' primary concern will be dealing with high volumes of low-sensitivity legacy digital information. These departments face lower risks but have more material to process. Previous research by The National Archives has identified that for twelve government departments more than 80% of their sensitive information requiring redaction is related to personal sensitivities including names, health and safety, bank account details and others, which can be satisfactorily identified by data analytics tools.²⁷ Volume-focused departments can therefore rely on technology tools more heavily, with more limited human review. They might not need eDiscovery software and instead might be able to rely on new, advanced EDRM systems.

Limited requirement

Finally, a number of departments have small legacy information collections which are unlikely to contain significant amounts of sensitive information. These departments face the lowest risk. Departments in this category are best-placed to respond to the legacy challenge through limited use of digital tools and small-scale human review. These departments must take steps to ensure they do not become complacent: it is very easy for digital material to accumulate in a relatively short period of time and departments with a limited requirement could soon find themselves in a more precarious position if information management fails.

Residual legacy issues

Search and data analytics solutions can help departments to manage the risks arising from their legacy digital information management collections but they will not eradicate this risk entirely. Human beings cannot be removed from the process: they need to operate software, set search parameters and (in the vast majority of cases) manually review potentially sensitive documents.²⁸ The technical limitations of the tools are significant. An inability to identify sensitivity from context means that analytics and eDiscovery software do not currently offer a complete solution to Inquiry search requests or sensitivity review, though they can support the process.

A number of departments will also find themselves constrained in their use of data analytics tools by their current technology arrangements, especially when IT is outsourced.²⁹ This is also relevant in a classified environment, where there are additional constraints on technology for security reasons. Departments in this position are likely to need to develop alternative plans or interim solutions prior to, for example, a migration to a different system in the longer term.

Emails pose a particular challenge to departments that is not easily solved by any single tool. For example, emails might be held in formats that are difficult to read (e.g. PST files) or sit within active email accounts (e.g. of long-serving civil servants). Emails are a good example of how technology does not provide a catch-all solution: digital material still needs to be saved, filed or deleted as part of daily business otherwise government will continue to accumulate digital material in an unstructured way. For that reason, human information management activity will still be required for the time being.

²⁷ The National Archives (2016), "The digital landscape in government 2014-15, Business intelligence review", <http://www.nationalarchives.gov.uk/documents/digital-landscape-in-government-2014-15.pdf>

²⁸ Ibid, p.25

²⁹ Ibid, p.29

4. Improving government information management

Technology can only be one part of a sustainable information management model for government. Human activity, such as naming, saving, searching and reviewing, is still important. Civil service leaders, including within the KIM Community, have made many attempts to engender an information management culture within government departments. To date, these have only been partially successful. Government has not always been receptive to information management improvement initiatives. Though awareness of the value of information as a corporate asset (like money or people) is growing, there remains much to do.

Some have argued (from both within and outside the KIM profession) that it would be more effective to automate information management completely and remove general civil servants from the process. Although appealing, this is currently unfeasible in practice: technology (specifically the inability of analytics tools to identify context) is not powerful enough to remove any need for proper naming and saving.

A new approach to achieving information management culture change is possible. Critical to this is persuading civil servants of the corporate value of their information by enabling them to get value from it themselves. There is a virtuous circle of information management (Figure 2) where civil servants are persuaded of the value that they get from the broader corporate memory and so commit to adding to that memory through their day-to-day work. Individual civil servants perform their own information management tasks very well. They retain emails that are important to them and save their work on their computers but in most cases, effective information management at an individual level has not yet translated to effective activity at the corporate level. It is at the corporate level that most of the information management risk is borne.

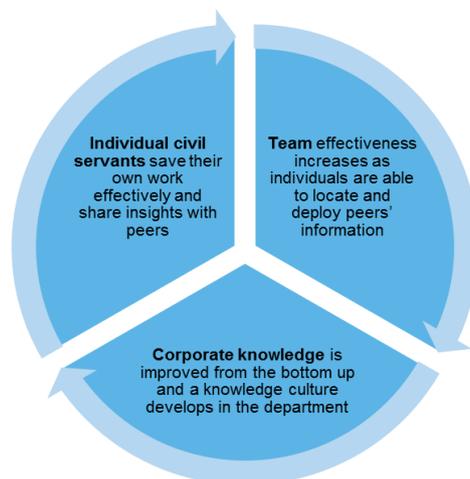


Figure 2 A virtuous circle of information management

By encouraging individuals to behave more corporately, removing barriers to effective memory creation and facilitating the retrieval of valuable business information for day-to-day use, departments can start the virtuous circle in such a way that it becomes self-sustaining. To do this, departments and individuals will need to work differently in a number of ways.

Creating the expectation of regular information management

Civil servants are already formally responsible for keeping a record of their activities. The “Integrity” section of the Civil Service Code states that individuals should “keep accurate official records and

handle information as openly as possible within the legal framework".³⁰ Anecdotal evidence suggests that individuals are broadly aware that information management is something they need to do but (due to corporate or team culture) it is in many cases de-prioritised in favour of other more pressing business requirements. It is critical for departments to increase the priority given to effective information management tasks and intervene in ways including but not restricted to those outlined below.

Project discipline

Civil servants, especially those working on policy, generally have fewer incentives to formally close down projects than peers in (for example) the private professional services sector.³¹ This is often due to work flow: the policymaking process is usually iterative and evolutionary and, in many cases, is followed by a delivery phase. This means that work does not formally conclude with a clearly identifiable end point or output. This is in contrast to the private consulting sector where a project report is more likely to be the culmination of the work which the company has been commissioned to perform by the client. This does not apply in all cases but even when additional work is commissioned by the client, the consultant will tend to log the initial phase separately for contractual reasons.³²

The result is that individuals within private sector consulting organisations are more likely to formally retain project products (and accompanying documents) in a corporate system: they need an internal mechanism to show they have delivered the product to the client on time, to specification. Consultancies also have a greater awareness of their information as a product, with value, which they reuse and leverage to reduce future costs and retain a competitive advantage. Civil servants, on the other hand, might be satisfied to store an interim policy report within their email inbox or within a team shared area.

By adopting and successfully embedding project close-down procedures more regularly seen in the professional services sector, the civil service, especially the policy community, would take a significant step towards more effective day-to-day information management, with all the ensuing benefits that brings.

Performance management

Project discipline is linked to the issue of individual accountability. Civil servants are not currently incentivised to retain evidence of delivery against their performance objectives in a formal sense. Mid and end-year reviews, though taken very seriously indeed, generally focus on self-assessment with manager and peer feedback. Asking civil servants to provide written evidence of how they had achieved their goals by pointing to material they had created and stored on an EDRM system would incentivise them to save and name their work correctly as a matter of course. Government would therefore harness the already powerful performance management culture to drive information management compliance.

Governance and control

As well as encouraging individual civil servants to perform information management tasks, senior leaders might make a more explicit commitment to ensuring their departments value information appropriately at a corporate level. For example, departments should consider evaluating information management procedures at Executive Committee or Board level or within annual corporate governance statements. This would increase transparency and raise the profile of the

³⁰ The Civil Service Code

³¹ This is not true in all cases. Secretariat functions (e.g. Economic and Domestic Affairs in the Cabinet Office) are highly incentivised to record policy decisions for accountability purposes

³² Insights provided by current and former private sector consultants

issue within senior leadership teams. Evidence from departments suggests that senior leadership role-modelling is a very powerful driver of culture change.

Making it easier to name and save things in the right place

Removing the technology hassle factor

Incentives can only drive positive behaviours so far. If information management is difficult or time consuming most civil servants will avoid it. This is a common complaint within departments: information management is a hassle that diverts teams from more pressing business. Therefore, it does not get done.³³ It is vital that new information management systems processes are designed with due consideration for how staff will use and interact with them.

Critically, information management requirements must not be overlooked when departments are undertaking strategic technology transformation projects. Departments need to consider how the new technology will facilitate and enable information management tasks and workflows. If there is no easy way to name or save documents in the right place this gives staff the false impression that information management is an afterthought. Some departments have successfully used technology transformations to drive positive culture change and improve information management compliance. Where this has happened, there has been close working between Digital Leaders and the Knowledge and Information Management community within the department throughout the transformation process.

Nudge techniques

Departments might also consider deploying behavioural science techniques to encourage civil servants to perform information management tasks more regularly and effectively. The Behavioural Insights Team's EAST framework, which advocates making tasks Easy, Attractive, Social and Timely, is a useful guide for how departments' might drive cultural change and increase compliance.³⁴

To make things easier departments could harness the power of defaults by removing the option for staff to save on shared drives and instead nudging them towards their EDRM system. Increased attractiveness might be achieved by rewarding compliance and performance (the Home Office KIM team plans to introduce annual awards for individuals and teams who are especially good at managing their information; HM Treasury have deployed a similar initiative with success). A social element might be introduced by showing staff how many of their peers are effective information managers. Finally, giving prompts at the right times, such as when staff are creating a new document, starting a new project or sending material to a Minister will help spread positive information management messages when staff are most receptive.

Helping civil servants find information and access corporate knowledge

Increasing incentives and making information management easier will start the virtuous circle. To sustain it, it is necessary to persuade civil servants of the inherent value of corporate information. Critical to this is helping them find information as part of their day-to-day work. If staff find value from others' information they will be more likely to reciprocate by effectively filing and structuring their own, making it more valuable to others. This will keep the virtuous circle moving.

It is currently difficult for civil servants to find and retrieve previous work. This is partly due to technological constraints: staff using older technology platforms are unlikely to be able to search

³³ The National Archives (2016), "The digital landscape in government 2014-15", p.17

³⁴ The Behavioural Insights Team (2015), 'EAST: Four Simple Ways to Apply Behavioural Insights', <http://www.behaviouralinsights.co.uk/publications/east-four-simple-ways-to-apply-behavioural-insights/>

for and locate previous documents in a straightforward way. Once departments have deployed modern, powerful EDRM systems with a search facility, this technology constraint is likely to be removed. Deploying a powerful records management system is less impactful if few staff know how to get value from it. When any new technology is introduced, it is therefore vital that the change programme includes a plan to increase general users' capability (e.g. search) and awareness so that all are able to leverage the additional functionality to maximum effect.

The ability of civil servants to find previous work also depends on their department's attitude to sharing work across their platform. Some departments have, for information security or other cultural reasons, an ingrained reticence to share material except in very limited circumstances. This is an obvious barrier to that information being found and used in other policy work. There is no single solution to this (and, indeed, departments may wish to continue prioritising information security over information sharing) but departments should be aware that there is a trade-off to be made when undertaking broader change management programmes.

New tools should also make it easier to find colleagues across the technology platform. A productive initial step when beginning a project is to find out what previous work has been undertaken on a given policy topic. This can usually be done by identifying the person who led that work and where they stored their information. Given civil service staff turnover and posting durations of around two years, this is even more important. To enable this, technology platforms might incorporate "people finder" capabilities and staff should be encouraged (potentially as part of performance management) to set up online profiles with information about their skills and experience.

The role of the Knowledge and Information Management Profession

The offer from the KIM Profession to generalist civil servants might be refocused in light of the evolving needs described above. KIM teams are likely to find renewed demand for advice and guidance on using EDRM systems; collaboration technology; effective search and data analysis; the best way to design information management procedures and processes (e.g. workflows); change management; and behavioural change. In private sector consulting organisations, KIM professionals also play a key role in structuring and de-sensitising client information for internal knowledge sharing.

In the short-term, the KIM profession might continue to align with other government professions and technical groups (e.g. data teams) to ensure a joined-up approach to guidance and capability development across government.

Encouraging civil servants to use corporate knowledge effectively

To achieve most value, storing and effectively retrieving information needs to be accompanied by appropriate and effective deployment of it in daily work. It is all very well civil servants being able to find previous policy material, they should also be encouraged to *use it* effectively so that departments as corporate institutions receive maximum benefits from aggregate knowledge. There are two emerging ways to encourage this: through a new approach to personal development and increased incentives to draw on predecessors' information rather than creating new ideas for ideas' sake.

New approaches to personal development

Teams across the civil service are currently considering how the accumulated knowledge of staff can be leveraged to maximum corporate effect. This reflects new insights from the academic and business world, where thought leaders like Beth Simone Noveck (who created the concept of

“technologies of expertise”) encourage increased engagement and knowledge sharing both within government and between government and citizens.³⁵

Examples of this include structured case study creation, where individuals are encouraged to share insights from their experiences which can then be developed into a narrative and communicated to others as part of formal development programmes. This is an emerging field but encouraging civil servants to listen to others’ experiences and learn from them could be a powerful way to foster a positive knowledge culture, which then reinforces information management messages.

Removing the impulse to “re-invent the wheel”

A common barrier to using corporate knowledge effectively is that civil servants often feel obliged to create new, dynamic and original ideas when these may have already been considered (and ruled out) during previous policy studies. A long-term goal might therefore be to create the expectation that civil servants will consider previous literature and the expertise of their peers within and outside government before developing new policy ideas. To do this will require the support of senior leaders and cross-government networks such as the Policy Profession.

By initiating and sustaining the virtuous circle by addressing incentives, making it easier to save and find information and encouraging civil servants to deploy corporate knowledge, departments are likely to be able to make significant steps towards sustainable information management improvement.

³⁵ Beth Simone Noveck (2015), 'Smart citizens, smarter state', <http://smarterstate.org/>

5. Making the change: our model of support

Cabinet Office, The National Archives and Government Digital Service are, together, already helping departments manage their legacy collections and improve day-to-day information management. In the current phase of the project, we are testing and developing the approaches set out above, some of which (particularly the technology solutions) have never before been fully implemented in an information management context. At the date of publication, all Whitehall departments have agreed to collaborate with the central project team in some way, along with a number of arm's length bodies. The team is working closely with other relevant parts of central government, particularly the Crown Commercial Service.

The team is also driving cross-government change, focusing on areas where multiple departments can benefit such as guidance; shared approaches to procurement and supplier engagement; capability development and knowledge sharing.

Bespoke departmental support projects

The engagement model is based around support rather than mandatory change. The team is expert, flexible and collaborative but it is also limited in size. It is therefore taking a time-limited project approach with clear agreed actions with departments. It is also targeting interventions towards those who have the most pressing needs and those who have approached directly with requests for assistance and advice. The team can usefully be viewed as a small consultancy service, helping departments navigate the new digital information management landscape.

Each engagement is bespoke, designed to fulfil the department's specific requirements. After a scoping and agreement process, the central team provides and brokers expertise to ensure the department can decide on the most appropriate activity for its particular circumstances (Figure 3). After that, a lessons learnt process ensures any instances of best practice are captured and a feedback loop and reporting process is designed to ensure continued focus.

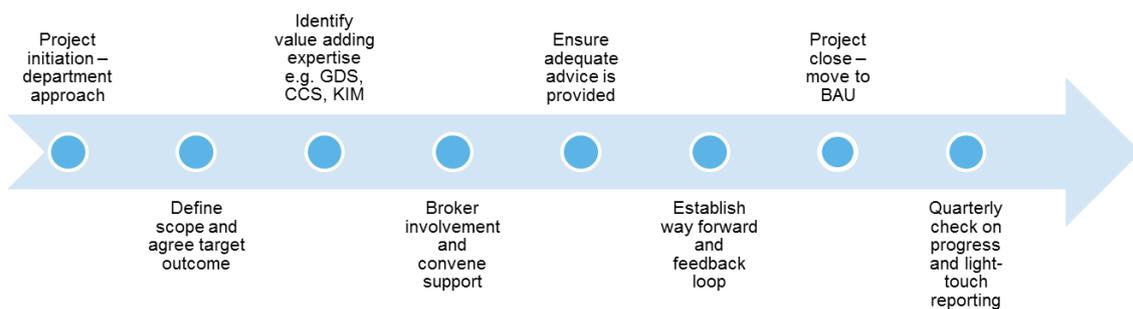


Figure 3: How each departmental engagement works

As ultimate responsibility for information management lies with accounting officers, the central team will not force particular solutions on departments. It is for departmental KIM and technology teams, along with senior leadership, to decide on the correct approach and deliver it successfully.

Clusters of activity

Given limited resources, the central team has clustered departmental projects into four areas under the two strategic issues addressed in this report: dealing with legacy digital collections and improving current information management. (Table 2).

Table 2 Project approach to clustering departments

Strategic issue	Cluster	Desired outcome for departments
Dealing with legacy digital collections	1. Managing legacy collections	More confidence about what material they hold, how sensitive it is and how they should manage risks
	2. Medium-term storage	Ability to transfer material to a vendor-neutral repository for short-medium term storage outside of cloud system, reducing migration costs. Departments able to interrogate material
Improving current information management	3. Implementing new records management systems	Successful delivery of new IT systems with IM requirements incorporated into change programme, making compliance more straightforward
	4. Improving ways of working	Increased staff awareness of IM importance and what their responsibilities are. In time staff get value from information, improving policy

The first cluster focuses on those Whitehall departments that require a new approach to managing legacy digital material. For these departments, the team is helping KIM and technology colleagues understand what they hold, where it is, how sensitive it might be and how they might best interrogate it. From a technical perspective, this involves identifying appropriate data analytics approaches and tools; working around barriers (e.g. outsourced technology platforms); and testing solutions using agile, GDS methodologies.

Second, a number of departments are considering medium-term archiving, i.e. consolidating and moving significant volumes of unstructured material outside a business-as-usual technology platform to a separate holding area for interrogation and processing before potential transfer to The National Archives. There are a number of benefits to medium-term archiving: if the archive is vendor-neutral, it can reduce information access risks around proprietary file types; because material is outside day-to-day systems, it can be interrogated and evaluated without disrupting general business; and because medium-term archives (which can be designed with an emphasis on maintaining the integrity of the information they contain) hold material in stasis, they are likely to facilitate the use of data analytics applications, which are better able to index static information collections. It is important, though, to ensure that such an approach can adapt to technology changes and that any medium-term archive is designed in collaboration with The National Archives to ensure compatibility with systems there.

Third, a number of departments are moving to new cloud platforms over the next 1-3 years, presenting a significant opportunity to refresh information management approaches and drive compliance in departments. As the Behavioural Insights Team has noted, “behaviour is generally easier to change when habits are already disrupted”.³⁶ Large-scale technology transformations offer this chance. There is also a risk: as we have seen, technology transformation programmes need to be designed with sufficient regard for information management requirements. Technology solutions have historically been designed without considering information management consequences (partly causing digital legacy collections to accumulate in the unstructured manner

³⁶ Behavioural Insights Team, ‘EAST: Four Simple Ways to Apply Behavioural Insights’, p.6

we have seen). The team is helping departments manage this risk by joining up with technology and digital teams and helping KIM professionals influence delivery plans.

Finally, the team is helping to refresh culture and behavioural change strategies in departments to drive better compliance. The team is working closely with experienced change managers in GDS and with colleagues in the Policy Profession and others to coordinate efforts.

Cross-government initiatives

Drawing on lessons from individual departmental engagements, the central team will seek out opportunities for cross-government working. The team has already identified a potential cross-government requirement around data analytics tools. The centre of government also has an obligation to facilitate joint procurement approaches and cross-departmental learning. The team has therefore convened a Digital Information Action Group comprising Cabinet Office, The National Archives, Government Digital Service and Crown Commercial Service to ensure a joined-up approach to both the data analytics market and departmental guidance.

There is also a potential cross-departmental medium-term archiving requirement. The technical architecture for such a solution is reasonably straightforward and already commercially available so any barriers are likely to be around cross-government accountability, responsibility and resourcing. As the team learns more about any potential opportunity (which is only emerging at this stage), it will engage with, for example, the Crown Hosting service to investigate appropriate delivery approaches.

Given the number of departments moving to cloud-based technology platforms through a limited number of providers, there are significant opportunities around sharing lessons learnt and ensuring government speaks with one voice to strategic suppliers. This is relevant both on the technology side, where departments will face similar challenges around configuring platforms in line with information management best practice (and perhaps supplementing “out of the box” platforms with applications or plugins); and on the change management side, where departments will implement their platforms within a few months of one another, presenting an excellent opportunity for cross-pollination of best practice. The central team is therefore convening a number of networks, focused on key platforms, to help departments link up and to collect intelligence to feed back to the supplier through Crown Representatives.

Finally, there is an opportunity to bring all of the lessons from this project together into a new or reconstituted body of guidance for KIM professionals, policymakers and technology teams alike. The project will work with relevant parties across government to develop a consolidated approach to advice and assistance, including a toolkit based on behavioural insights and the EAST framework.

The next 6-12 months: driving change and improvement

Having adopted the approach set out above, Cabinet Office, The National Archives and Government Digital Service have committed to an “alpha” approach to solution development (collaborating and formulating solutions) and a “beta” phase of testing and delivery. Over the next 6-12 months, the team will seek to drive change across departments and government as a whole while retaining a supportive, collaborative engagement model. The team will report as required to the Cabinet Secretary and Permanent Secretaries on outcomes.

As departments are responsible for all issues related to information management and compliance, the team will continue its consultative approach for as long as departments find its support and guidance useful. Beyond that, it will fall to accounting officers to ensure that lasting improvements have been embedded.

6. The future of government information management

We have seen how technology and culture change can help departments mitigate legacy information management risks and improve future compliance. But to ensure government manages its information effectively in the long-term, we must also look at structural and systemic issues. Without considering these, there is a risk that the problems described above will recur. Earlier, this report described potential approaches for departments to solve information management problems in the current environment. It is now important to consider the future of the environment itself. If we organise for effective information management, the potential benefits are significant and the UK can aspire to become a global leader in this field.

We do not have all the answers in this area now but the issues below should be considered as part of further work.

The digital information lifecycle

Government information management has traditionally been based around the concept of an information lifecycle. Over the course of this lifecycle content is created within departments, used by them and then later considered for long-term retention. Under the current system, a subset is ultimately selected for historic preservation at The National Archives. This arrangement dictates that departments are custodians of their information until they are required by the PRA to transfer it, physically, to The National Archives.

Transfer and custodianship

The way government currently does information management was designed for the paper era so it is not surprising that specific elements do not sit well in the digital world. The concept of custodianship and responsibility for records, which was previously clearly bound by the transfer of a physical item (the paper record), is now more fluid. A digital document might exist in one place or multiple places at once in the cloud and access to it might be possible from a wide range of locations so current notions of physical transfer need to be reconsidered in the light of new technological possibilities. It is now less about where the records sit and more about who is responsible for what they contain. This has potential implications for the boundaries between The National Archives and government departments, along with their respective responsibilities and accountabilities under the law.

Legislation in the digital era

The current legislation governing knowledge and information management might also need to be amended in light of the challenge of digital records. The PRA was written to be format-blind but at a time when it was only possible to envisage physical material. It is also prudent to consider the new challenges that online digital records present for protecting sensitive information and individuals' data under the DPA. Increased access through online publication is one aspect of this, but there are also challenges arising from aggregated data sets. A document that was not deemed sensitive in isolation or even within the context of a larger cohort of data could reveal sensitive information when connected to other documents by powerful aggregation software. The tools to pool information and extract meaning from it offer many potential benefits for government but they also introduce new risks to statutory compliance that need to be considered.

Information management governance

Responsibility for information management policy, monitoring, guidance and advice is shared between Cabinet Office, The National Archives, the Department for Culture, Media and Sport (as sponsor of The National Archives) and the KIM profession.

The Keeper of Public Records, who is the Chief Executive of The National Archives, has statutory responsibility for supervising and providing guidance on the management of records, as well as for managing the archives themselves. The advisory role of The National Archives is carried out in a number of ways, including through a programme of Information Management Assessments (IMAs) of departments. Since 2008, the programme has focused on departments' information management activity, with departments providing feedback that IMAs are useful guides to improvement. It is consultative and collaborative but it could potentially take on a harder edge with greater emphasis on departmental planning and improvement monitoring, with The National Archives working in collaboration with Cabinet Office.

This is part of a broader question about the digital readiness of The National Archives. Being a proven leader in digital platforms and services such as legislation.gov.uk, The National Archives has acknowledged digital as its biggest strategic challenge and is diverting resources accordingly. The digital challenge is compounded by the additional pressures on departments and The National Archives as a consequence of the move to the twenty-year rule and accelerated transfer of paper records. The skills to achieve success in the digital information era include technical expertise and change management, along with the ability to advise and guide departments. The KIM profession is also making the shift from a paper to a digital world. KIM leaders have an opportunity to offer cross-government expertise on digital information management but this will require a new set of skills and capabilities such as search and process design, alongside better change management and technical skills.

Ministerial oversight of The National Archives is provided by the Minister of State responsible for digital policy, with DCMS having policy oversight of the twenty year rule, oversight of the Information Commissioner's Office and cyber. Within the overall policy framework set by DCMS, Cabinet Office has oversight of records management with the Minister for the Constitution responsible for the policy area.³⁷

The government information management landscape is currently complex and further work should evaluate governance arrangements at a strategic level.

Potential cross-government approaches

Cloud-based technology, increased collaboration across departments and the emergence of more joint policy units all challenge the current, department-focused approach to knowledge and information management, though cost and lines of accountability and responsibility remain significant obstacles to change. Departments are responsible for compliance with the legal framework. This means that when machinery of government changes occur, digital information has to be transferred from one department to another through a data migration. It also means that when a document held by one department (e.g. HM Treasury) contains sensitive information about another department's work (e.g. the Foreign & Commonwealth Office), both departments need to review it for sensitivity prior to transfer to The National Archives: a significant duplication of effort that is most likely unsustainable given the volume of digital information now created by government. It therefore makes sense to reconsider the cross-government landscape and whether the way departments interact when performing information management tasks is logical and efficient.

A radical approach to this would involve considering KIM as a potential function – i.e. a centralised, cross-government professional service that is standardised across departments. There are a number of benefits to a functional approach to information management: it would help standardise

³⁷ These ministerial responsibilities were announced by the Prime Minister on 17 September 2015 (<http://www.parliament.uk/business/publications/written-questions-answers-statements/written-statement/Commons/2015-09-17/HCWS209/>) and brought into effect by the Transfer of Functions (Information and Public Records) Order 2015 - http://www.legislation.gov.uk/uksi/2015/1897/pdfs/uksi_20151897_en.pdf

activity and promulgate best practice. It would also be beneficial for central procurement of powerful digital tools, central skills development and potentially sensitivity review if this needs to be done by more than one department (the KIM function could perform the task once for government). Disadvantages to this approach include the potential loss of bespoke approaches (e.g. to sensitivity review) for each department and unclear lines of accountability. It is necessary to consider all potential impacts in the round.

Government as an information management leader

To ensure government is at the forefront of modern, innovative approaches to information management, we need to innovate and continuously improve. If we fail to scan the horizon and stay one step ahead, the re-emergence of negative information management trends is likely. There are two particular areas of activity required to become and remain a world information management leader.

Thought leadership, emerging technologies and ways of working

As illustrated by Sir Alex Allan's 2015 report, government has historically been reactive on information management, allowing problems to build up over time before identifying and implementing solutions when the problem becomes unsustainable. To move to a more proactive approach, The National Archives or other central function could be tasked with not only ensuring lessons are learnt from world-leading information management organisations in the private and voluntary sectors but also translating this into meaningful action on the part of departments. This thought leadership and translation function can usefully be combined with a horizon scanning capability to enable government to identify emerging challenges and plan ahead to meet them, reducing the risk that departments fail to keep pace.

Examples of emerging issues include digital sensitivity review, email and social media. Sensitivity review is currently the data analytics frontier: tools combined with human review can meet some challenges but the large-scale identification of non-personal sensitive information remains difficult. The collection and preservation of email collections requires both adequate capture and a long-term means to present the information in a contextualised way for the public record. The use of other communication tools such as social media and instant messaging needs to be recognised for accountability and compliance reasons and methods should be developed for capturing information in these formats.

By considering both the strategic environment and the tasks required to keep ahead of the curve, government can become a global information management leader in the long-term. The aspiration should be to continue evaluating, improving and pushing the boundaries of what is possible so that departments, civil servants and citizens are able to gain the most value from government information now and in future.

7. Conclusion and recommendations

As Sir Alex Allan's Review of Government Digital Records demonstrated, information and records are a critical government resource. Government is an information-based business and the value of the civil service includes the accumulated value of the information that departments hold. Information is vital for legal compliance: without effective information management, departments will not be able to meet their statutory obligations. As things stand, government information management has yet to meet the digital challenge. Most departments hold significant amounts of unstructured legacy digital information and few have a full understanding of the legislative, reputational and operational risks this poses and the wasted efficiency opportunity. Our aim should be simply that departments get better at managing their legacy collections and improve current information management by drawing on all the levers at their disposal. We therefore make the following recommendations:

1. All government departments should:

a. Evaluate the level of risk they face from legacy digital information collections and take appropriate action

Accounting officers and senior leaders should gain an understanding of their department's legacy information risk profile and take steps to minimise risk. We know that legislative, resource and technological constraints restrict departments' options for addressing legacy challenges but specific steps are possible, such as using technology embedded in new digital platforms or procuring digital analytics tools to better understand and manage information collections. Departments should identify and implement solutions that match their own specific requirements.

b. Undertake renewed efforts to drive information management compliance across their business

Accounting officers should recognise the importance of information management and prioritise the activity by, for example, discussing it at Executive Committee or Board level and including information management performance in governance statements. Departments should take specific steps to improve information management performance, unlock value from legacy collections and drive use of corporate knowledge through culture change initiatives.

2. Cabinet Office, The National Archives and Government Digital Service should:

a. Continue to support departments to manage legacy risks and improve information management

The project team should pursue its project portfolio approach and assist departments with both legacy risk mitigation strategies and information management improvement activity. Though departments are ultimately responsible for information management performance, progress should be reported, as appropriate, to the Cabinet Secretary and Permanent Secretaries.

b. Continue to identify and progress strategic initiatives to improve government information management structures and processes cross-government

The project team has already uncovered potential shared approaches in the commercial, technical and policy space that require further exploration, testing and delivery planning. This work should continue, aligned with other relevant cross-government and functional initiatives.

c. Continue work on emerging information management issues and trends

The project team should undertake further work to understand emerging information management issues at a strategic level, including concepts and legislation, governance structures and civil service capability, with a view to helping the UK become a global leader in information management in the long-term.

