
DELIVERING
INTEROPERABILITY:
CCS DISCOVERY PROJECT



Report summary – October 2024



Introduction

Interoperability: The ability to exchange and use information, ensuring that information is independent of the technologies used.

Interoperability is a key prerequisite for the achievement of major UK industrial policy ambitions including those relating to artificial intelligence (AI) and the data economy. As a service enabler, it will support cross-cutting priorities, including economic growth, health (ICS), safety and wellbeing, building safety and Net Zero. By focusing on interoperable, quality data, Government can maximise the value of its collective information and reduce information value depreciation over time, helping to deliver better services, more efficiently and at lower cost.

While the principles of quality and interoperability are well established in central government policy statements and guidance, they are less widely understood and followed by many of those engaged in the procurement of information and communication technologies. Recognising this, Crown Commercial Service (CCS) commissioned the GIIG to undertake a discovery project. This sought to understand if and how CCS customers specify and procure digital products and services which work with existing and future systems, so enabling secure information exchanges, and the delivery of efficient and effective online public services.

Themes

Qualitative interviews of representatives from a cross-section of CCS customers were undertaken from March to May 2024. These identified variable awareness and understanding of interoperability challenges. Themes that emerged from the discovery process were as follows:

1. Decision-makers' and procurers' understanding of interoperability is still evolving

The business case for better quality, interoperable data is understood by many procurement professionals (though organisations differ in the maturity of their approach) - it is seen as a key requirement. Legacy organisational approaches to information and data can make interoperability seem difficult to attain, and inter-organisational information exchange are still evolving (driven, in part, by government digital policy objectives about sharing data across departments and agencies). However, efforts to improve interoperability are hampered by different approaches to: i) information requirements, and ii) standards-based data-sharing arrangements. Technology suppliers are not seen as catalysts in improving quality and interoperability of information; often they are seen as part of the problem, creating inertia within and between organisations

2. It's about helping organisations to procure interoperability

Differing organisational maturity levels, the varying approaches to wider information exchange, and the ambivalent approach of many technology suppliers may hamper concerted efforts by procurement professionals to achieve better quality and interoperability of data (only one

interviewee mentioned their use of central government guidance on open standards). Procurement professionals are not required to be information management experts. They should have a strong focus on managing effective procurement processes (early engagement, specifying outcomes, etc) but achieving good quality and interoperability (as an organisational information requirement) is often just one of many considerations in the buying process, and it may not be something that remains a key requirement once a contract is awarded. The perceived rapid pace of technological change can also be daunting to many procurers, making them hesitant about specifying long-term quality and interoperable information requirements, and leaving them reliant upon technology suppliers to provide (sometimes costly) additional support services.

In short, if internal expertise is lacking, organisations fail to properly specify their quality and interoperable information exchange requirements, they are also unable to adequately evaluate the tender submissions they receive, and then cannot effectively monitor and manage the quality of service their organisation receives.

3. Inertia and legacy system factors affect ability to deliver interoperability

Organisational procurement challenges relating to quality and interoperability also clearly vary according to the types of technologies, the scale of the systems involved, and – particularly in the case of (sometimes bespoke) legacy enterprise systems – the extent to which they are embedded in the organisations concerned. Deeply embedded enterprise systems can limit the extent to which organisations can reduce their reliance on proprietary information systems; senior managers familiar with those systems may also balk at the anticipated cost, time and pain of transition to new, more interoperable systems; and subject matter experts may opt for continued use of an existing system over introduction of a new one. Public sector budget constraints have also often prevented investments in new systems. However, central government policy directives on adoption of cloud-hosted, software-as-a-service (SaaS) technologies¹ are having an impact, building familiarity with configurable (rather than customised) solutions built on standards-based web architectures, with vendors increasingly aware that customers want portability of data between systems.

4. Organisation leaders should think strategically about interoperability

Awareness and understanding of interoperability by procurers varies widely across organisations. This reflects, among other things, individuals' differing professional backgrounds, their levels of experience in digital fields, their seniority, their departmental responsibilities, the size of their organisation, whether they can consult with dedicated IT specialists or line-of-business specialists from their internal customers, the frequency of their procurement exercises relating to information management systems, and the availability of sufficient time to manage a procurement process. New procurements are typically collaborative processes involving extensive internal consultation (but where internal resources are lacking, professionals may consult their counterparts in other similar organisations, or, occasionally, external support). Again, public sector budget constraints can also be a factor, limiting organisations' ability to recruit and retain relevant experts, leading to skills/knowledge gaps when it comes to successfully specifying, procuring and implementing systems that support better quality, interoperable information.

¹ CDDO, Technology Code of Practice: Point 5: [Use cloud first](#) (last updated 21 July 2022)

While today's public sector organisations are increasingly being exhorted to exploit data and technologies to keep the UK at the forefront of AI and the data economy, it may be tempting to throw more technology at the problem, but this can compound problems.² In digital change programmes, attention also needs to be paid to wider issues including senior leaders' understanding of legacy systems, the quality and provenance of underlying data and the extent and speed with which government and industry organisations can adapt to new requirements (the Building Safety Act 'golden thread', for example).

5. CCS customers are often poorly positioned to bargain on interoperability

Procurement professionals are often challenged in how they negotiate with large, often multinational, technology suppliers regarding interoperability. Particularly where they are concerned with legacy enterprise systems where there is limited competition, procurers feel they have little leverage to ensure their technology suppliers enable interoperable information exchange. As a result, CCS customer organisations may be vulnerable to 'vendor lock-in' or be unable to challenge the vendors' standard offerings and related terms and conditions. In the face of such 'divide and rule' imbalances, some procurers feel they should collaborate with their counterparts in other, similar public sector organisations to engage in 'collective bargaining' with key vendors. However, there are precedents for negotiation of agreements with key suppliers (CCS cloud services MoU with Microsoft, for example) and the GIIG – through its involvement with the Information Management for Public Services, IM4PS, group – is aware of some efforts to share learning and best practices across organisations.

Initial Recommendations

These themes led to a number of initial recommendations aimed at addressing apparent gaps relating to current provision of knowledge and expertise:

1. Improve decision-makers' and procurers' understanding of interoperability

- a) An 'Interoperability 101' basic awareness course for CCS customer organisation managers / decision-makers. This would introduce high-level organisational information requirements:
 - the concepts and key underlying principles (importance of interoperability to ensure long-term findability, accessibility and reuse of information within organisations and between organisations; key role in enabling enable information longevity, security, information value, information ownership, and competition)
 - the importance of data quality and the part interoperability plays as an essential part of an assurance process
 - a glossary or 'jargon buster' to ensure consistent understanding
 - relevant UK Government policy drivers and existing roadmaps and guidance

² The National Audit Office (2021), *The challenges in implementing digital change*, noted: "When large digital business change programmes run into difficulty, the technology solution is often cast as the primary reason for failure" (p.4).

- technology planning for resilience / implementing technology change
 - the bigger picture (the digital agenda, AI, machine learning, IoT, etc)
 - any sector-specific imperatives (eg: Building Safety Act 'golden thread' information in the built environment)
- b) A baseline self-assessment tool to help decision-makers evaluate and benchmark their current levels of knowledge and expertise (post-'101' training). This would provide the basis for a gap analysis and capability development planning for the organisation. The basic awareness course and self-assessment tool would contribute to decision makers being able to consider next steps (for example, the potential development of an information management roadmap for the organisation) and provide insight into the role of interoperability in service delivery.
 - c) An 'Interoperability 101' basic awareness course for CCS customer organisations' procurement professionals (similar to 4.1a, above, but focused on how procurement can help deliver organisational information requirements).
 - d) A baseline self-assessment tool to help procurement professionals evaluate and benchmark their current levels of knowledge and expertise (post-'101' training). Again, this would provide the basis for a gap analysis and capability development planning for the organisation.

Note: In some instances, improving understanding of interoperability may need to be extended to organisations' internal customers. Their focus on existing systems, suppliers, etc, may mean they do not appreciate wider organisational or pan-governmental imperatives, and so additional change management materials may be needed.

2. Provide tools and demonstrate how to procure interoperability

- a) Ascertain the need for and, if required, develop guidance/toolkit that sits alongside mandatory (CCS) procurement checklists, processes and procedures, with organisational information requirements and standard product/service specifications, including signposting relevant Codes of Practice and Government guidance.
- b) Collate and then share relevant peer to peer case studies and FAQs (by sector and/or technology type) that help inform a 'how to' approach to delivering interoperability.

These tools and case studies would reduce the barriers to change, making it easier for an organisation to adopt interoperability requirements in their procurement. They would also help to standardise the way in which organisations across the public sector adopt interoperability requirements, accelerating the pace of change.

3. Address inertia and legacy system factors affecting ability to deliver interoperability

- a) 'Sector hubs' – identify and empower sector-specific organisations to act as information and practice development hubs and drive initiatives for better quality and interoperable information in each sector (eg, the Local Government Association in the local government sector, and any similar bodies in other sectors: health, education, infrastructure, etc). Initiatives could include workshops with sector supply chain members. Ideally these hubs would be delivered as part of pre-existing sector groups.
- b) Review the potential for pre-qualification standard requirements for technologies and interoperability (by sector and/or technology type). Could be modelled on the GIIG's

Code of Practice and be developed in collaboration with technology vendor communities.

4. Help organisation leaders think strategically about interoperability

Although this is an important part of achieving interoperability, it was not felt that the CCS customer discovery project remit included recommending detailed steps relating to organisational leaders (beyond those covered in 4.1a).

5. Consider how CCS customers might bargain more effectively on interoperability requirements

Again, although this is a significant barrier to achieving interoperability, it was not felt that the CCS customer discovery project remit included recommending specific steps relating to how procuring organisations might improve their negotiating positions with suppliers of information technologies and related services (beyond its recommendations under 4.3 above). This is of course part of a larger issue concerning relative strength of bargaining positions in commercial transactions between public sector procuring organisations and private sector suppliers. It may be that the recommendations proposed in 4.3 above would assist in improving the parties' relative bargaining positions more generally in any event.

The GIIG (a trading brand of nima) is a not-for-profit business focussed on practical ways to enable efficient information flows in construction and asset management. It helps organisations to create and manage reliable information that will remain findable, accessible, interoperable and reusable (FAIR).

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