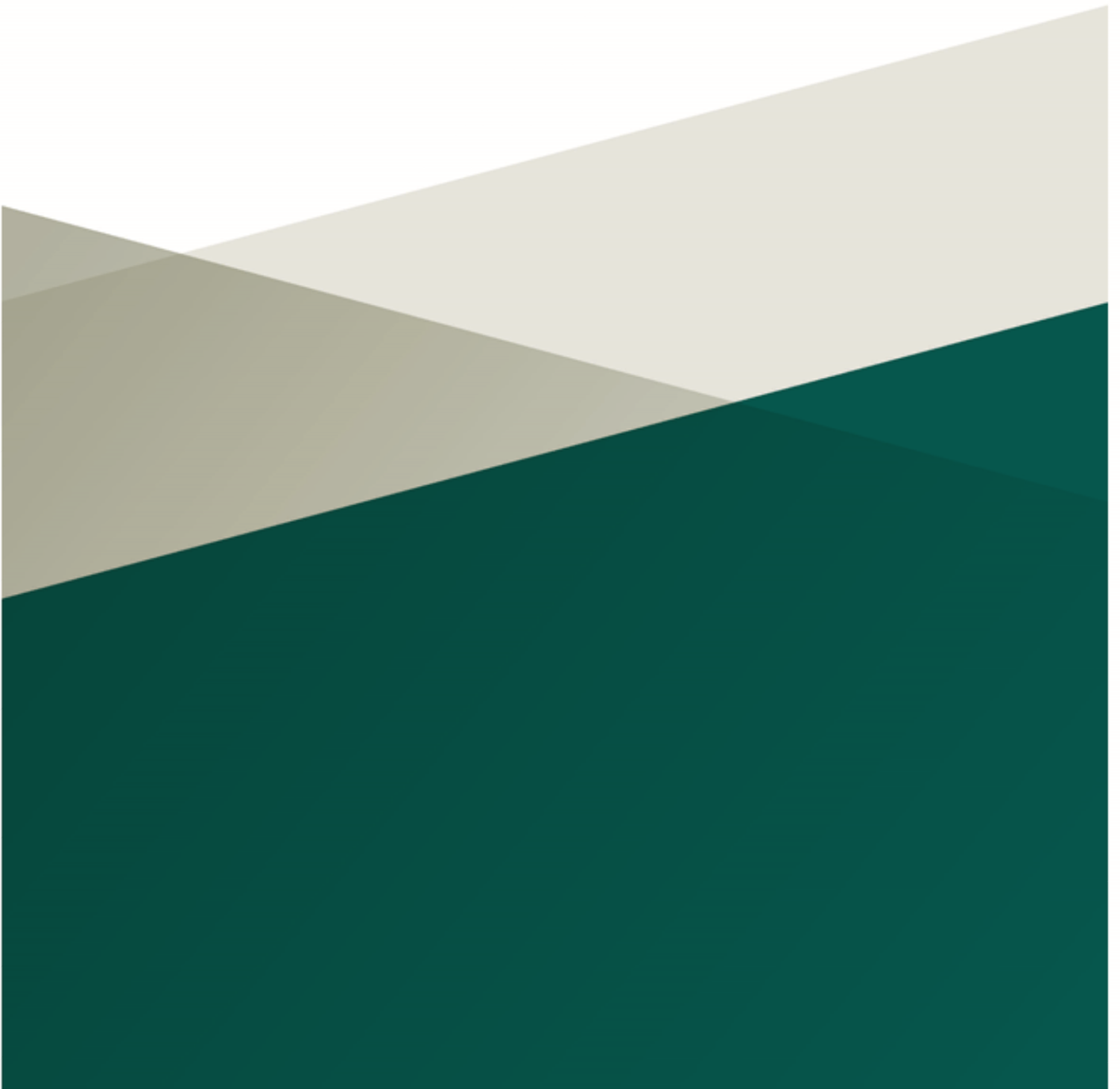An Roinn Caiteachais Phoiblí
Sheachadadh PFN agus Athchóirithe
Department of Public Expenditure
NDP Delivery and Reform

# OGCIO Base Registry and Data Reuse Survey Report

## October 2023

# Contents

| Table of Acronyms | |
|---|---|
| API | Application Programming Interface |
| DGU | Digital Governance Unit |
| DSGA | Data Sharing and Governance Act 2019 |
| OGCIO | Office of the Government Chief Information Officer |
| PSBs | Public Service Bodies |
| PSDS | Public Service Data Strategy 2019 - 2023 |

# Introduction

Data and its management, governance and reuse lies at the heart of government and the delivery of public services. Both Connecting Government 2030 and the PSDS acknowledge that a fragmented approach to data sharing exists between PSBs. This fragmentation inhibits the potential administrative efficiencies gained from improved data sharing and reuse.

The PSDS envisages a Public Service data ecosystem with improved data governance, management and reuse to the benefit of government and any person or business who interacts with the Public Service. In line with PSDS, OGCIO are currently developing two initiatives that specifically address this:

- Designation of base registries as single sources of reliable data advocating reuse over re-collection
- Implementation of the API Catalogue facilitating greater transparency discovery and exchange of data held between PSBs

These initiatives will promote once-only data collection and continuous reuse with an outcome that reduces duplicate data administration and overhead for PSBs, while also enabling these bodies to deliver improved person-centric services.

The DSGA provides for the establishment of base registries as sole sources of high quality information frequently consumed by PSBs. The PSDS sets out the vision for a Public Service API Catalogue that will promote the discovery and reuse of datasets available between PSBs, and facilitate access to designated base registries.

More specifically, the survey sought to:

a. Profile the current landscape of data collection, management and reuse practices within the Public Service, and the factors inhibiting greater discovery of datasets for potential reuse.
b. Gauge perspectives on how base registries and API-led data reuse can transform data administration for the benefit of PSBs and the public.
c. Understand the challenges to PSBs to incorporate base registries and API-led data reuse within their own organisation.
d. Assess how OGCIO governance supports and structures can address the challenges identified in the survey to achieving strategic and administrative benefits for all.

# Executive Summary

The Base Registry and Data Reuse Survey found a well-established culture of data sharing, active data quality management and more importantly an openness to new initiatives to harmonise data reuse for public services and provide efficiencies in administration. However, it also found that to achieve these potential efficiencies, a focus on supporting a technical and cultural transition from data silos to a Public Service-wide data ecosystem of data reuse is needed.

The following is a synopsis of opportunities for consideration by the Data Governance Board (the Board) that could empower a Public Service-wide data ecosystem of greater reuse over re-collection.

## Governance and Leadership transitioning culture

Data sharing between PSBs is not a new concept within the Public Service, with the majority of respondents sharing their data collected for reuse. However, the survey also found a data ecosystem comprising of silos where:

- data available for potential reuse is not visible to access
- data quality is inconsistent
- duplicate dataset collection is inhibiting potential efficiencies of organisational resources

There was general agreement among respondents of the potential administrative value from OGCIO led projects establishing base registries and an API-led catalogue, but some indicated slight scepticism that their implementation could be enforceable throughout the Public Service when data silos are so prevalent. Respondents believe that:

- governance structures and strong leadership is required to drive the transition to data practices incorporating once-only data collection and reuse over re-collection

OGCIO is empowering PSBs in this transition by publishing a Public Service Data Strategy template which allows PSBs to align their own data strategies with key elements of the Public Service Data Strategy. Additionally the Board can support this transition by using its functions, as set out in its Terms of Reference, to advise on the prescribing of rules, procedures and standards.

Specific emphasis of base registry designation and the API catalogue within the data strategy template will be key in aligning PSBs across the Public Service to prioritise their inclusion at a strategic level. OGCIO are in a fortunate position to engage with the Board to steer and guide the realisation of base registries and APIs as key enablers of data efficiency across the Public Service. Effective communication will also be key to influencing a new integrated data ecosystem away from the current silo approach. The Communications and

Engagement Committee is regarded an important supporting structure to drive this cultural change across the Public Service.

# Building PSB capacity for data reuse initiatives

There is an appetite from respondents to allocate available resources and funding into new data sharing initiatives supporting administration efficiencies, reduced duplicate data holdings and informed decision-making. Many have already invested in new data exchange technologies, including file sharing platforms and cloud storage, with the majority of respondents agreeing that base registries and improved API-led reuse are key to achieving potential efficiencies in both data management and service delivery.

The majority of respondents noted also that a significant challenge to developing, maintaining and supporting base registries and APIs were:

- the unknowns of potential administration and funding costs

OGCIO is already developing an API Catalogue and has engaged with PSBs to publish their APIs. This will directly facilitate the opportunity for data reuse. There is no cost to PSBs to list their APIs in this catalogue. The implementation of the Public Service API Catalogue is a first step in establishing a shared API portal supporting pan-government interoperability.

In 2024, OGCIO will also deliver a base registry proof of concept to build a picture of the potential budgetary, administrative and GDPR capacity required in fulfilling requirements of the base registry owner role. The Board also, under its Terms of Reference, can advise on the designation and operation of Base Registries.

## Transforming data value from greater reuse

Respondents agree that base registries and API-led reuse could standardise good data management practices and improve the consistent availability of high quality data across the Public Service.

Respondents noted that access to reliable high quality data could provide an opportunity for service trends and pattern analysis that could in turn improve evidence-based decision making to the delivery benefit of public services. Not only could governance structures and supports ensure data quality is consistent and reliable for reuse, but they could also result in new opportunities and innovations to deliver better services to the public. Benefits realisation will be a central theme of justifying a dataset for base registry designation. The Board may advise the Minister of the value of dataset designation along with its beneficial effect to the public.

# Survey Approach

The survey, commissioned and issued by DGU in June 2023, was circulated to forty-two members of the Data Officers Network for submission. It was also distributed to IT Managers via the IT Manager network for collaborative purposes. Eighteen Data Officers submitted a response on behalf of their organisations, with the remaining respondents submitting on behalf of their Data Officer.  While data is central to public services, a broad picture of current data collection, administration and reuse between PSBs is not generally known. This survey was not only an opportunity to detail data practices but also to gather feedback and perspectives of the challenges, opportunities and benefits for individual PSBs to incorporate base registries and APIs into their operations and business processes.

Although restricted by the number of survey respondents (33) with regard to the overall statistical representation of PSBs within the Public Service, OGCIO received significant and comprehensive survey submissions from a broad cross-section of domains across Departments that greatly assisted overall report findings. Respondents embarked in extensive internal collaboration at various levels, including strategic and technical, within their organisation to ensure responses were detailed, accurate and extensive. Respondents also included open and candid perspectives on key themes of data transformation. Statistical findings complimented with granular context allowed OGCIO to determine common findings and perspectives on the opportunities and challenges to improve data collection, quality and reuse through the establishment of base registries and greater API-led data sharing.

The survey comprised of eleven questions covering themes of general data strategy, collection and management practices, and administrative transformation from the designation of base registries and API-led reuse.

Respondents were also given the opportunity to provide their own professional perspectives in several key areas:

- Incorporating greater data reuse into organisations' information and communications technology (ICT) or digital strategies
- Current data collection and management practices
- Administrative challenges and benefits of base registries and APIs
- Potential service transformation from base registries and improved data reuse

This report summarises results from the survey for consideration by the Board. The results and related comments are anonymised.

# Key Statistics and Comments

- 33 responses received
- Survey conducted between 8th May to July 31st 2023

## General Data Strategy

**88%** say data is a regular item a*
senior management level

Data is regularly discussed:

- **3%** Yearly

- **36%** Quarterly

- **43%** as required

**Key Comments:**

"Data reuse itself has not influenced our ICT strategy. However, our strategy was drafted with the use of all data generally in mind."

"The organisation is very strongly data driven. Data influences operational activity and policy"

"Data reuse is likely to form a significant part of that strategy in the context of fully exploiting the data that is available."

"We are currently starting a digital transformation project, so up to this it would not have been on the agenda."

## Data Collection and Management

**58%** share collected data with other PSBs

**55%** facilitate API data exchange within their organisation

**30%** of data for reuse is transferred via APIs

**60%** request data from other PSBs for service delivery and policy development

Top inhibiters of data reuse:

- **52%** No formal agreements to reuse data.
- **48%** Absence of exchange infrastructure
- **42%** inconsistent or inaccurate datasets
- **39%** Lack of transparency of data collected and held by other PSBs

**58% - 85%** collect data via non-digital means (by post, phone, over the counter)

**45%** are aware of other PSBs collecting the same data as themselves

**18%** of shared data contains inconsistencies or inaccuracies

**Key Comments**

"Access to APIs enables us to read data programmatically and without manual intervention from authoritative sources and keep internal systems in lockstep with those sources.

"Our API enables users, including PSBs, to access aggregate data and interrogate it for their needs. "

"Data is in silos, so the area of data does not have dedicated resources or sections and as such falls between the business areas."

## Base Registry and API-led Data Transformation

**45%** agree that data reuse can reform or reduce non-digital collection

**70%** agree that data reuse can improve services to the public

**60%** agree that base registries can reduce the administrative burden to collect, store and manage data from the public.

**30%** declined interest in base registry owner role, with **42%** unsure of accepting base registry role due to capacity and funding

**Key Comments:**

"Data collected to a standard requires dedicated resources and an overarching body to enforce data collection and supply."

"Need to consider the burden that API for support of base registers would put on our system. Funding of work"

"One of the aims is to create a single source of truth in relation to the data we hold and to be able to better monitor trends and garner insights."

"Reduce duplication, confirming the authenticity of data."

"I love the idea of base registries, I just don't think Ireland has the will to force organisations to operate them efficiently."

# Challenges and Opportunities

The survey not only sought to build a picture of current data collection, management and reuse practices within the Public Service but also to gain insights into the potential challenges for respondents in transitioning these practices to a joined-up data ecosystem which eliminates data silos and establishes greater data reuse over re-collection through base registries and APIs.

On the question of data reuse challenges, the survey found that greater data discovery, transparency, quality and reusability is key to empowering PSBs to transition to an integrated data ecosystem of once-only data collection and greater reuse.

**Main challenges to respondents that make it difficult to identify and reuse data available from other organisations**



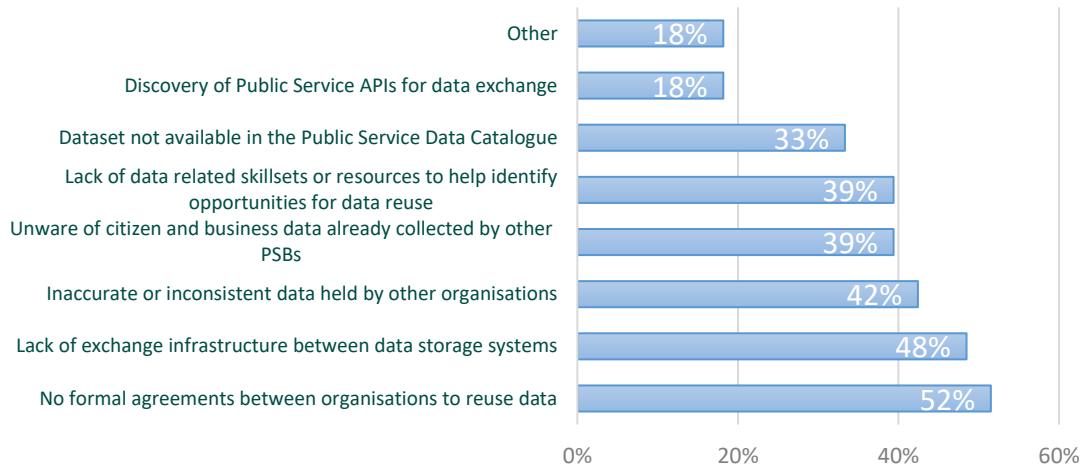| Category | Value |
|---|---|
| Other | 18% |
| Discovery of Public Service APIs for data exchange | 18% |
| Dataset not available in the Public Service Data Catalogue | 33% |
| Lack of data related skillsets or resources to help identify opportunities for data reuse | 39% |
| Unware of citizen and business data already collected by other PSBs | 39% |
| Inaccurate or inconsistent data held by other organisations | 42% |
| Lack of exchange infrastructure between data storage systems | 48% |
| No formal agreements between organisations to reuse data | 52% |

*Figure 1 Main challenges to respondents that make it difficult to identify and reuse data available from other organisations*

This section will not only clarify identified challenges but will also propose opportunities for OGCIO to support and empower PSBs in addressing these challenges through strategic alignment, standardisation of data management practices and the development of technical, administrative and funding capacity.

# Strategic Alignment of Base Registries and the API Catalogue

The survey found that data and its management is a high priority at senior level within various organisations. However, implementing mechanisms of greater data sharing and reuse between PSBs is not a common theme within their ICT strategies.

While there is unity between respondents that base registries and APIs are critical to transforming data management, quality and reuse within the Public Service, the survey found there is a need for overarching structures and supports to drive their establishment at the center of an integrated Public Service-wide data ecosystem.

One respondent noted:

*"Much of the reasons for data reuse are in order to increase efficiencies in services provided to the public. However, there is no simple, quick way for public bodies to quickly share data"*

A significant challenge observed is the strategic alignment of individual digital transformation and ICT strategies currently in development by PSBs to incorporate base registries and APIs as key enablers for greater data sharing, reuse and administrative efficiencies.

The DGU are developing a Data Strategy template that can be used to assist PSBs in developing a Data Strategy for their organisation. This template will highlight the benefits of base registries and APIs and prompt PSBs to consider them when developing their strategy. Emphasising base registries and APIs as key enablers for greater data reuse within the template, will ensure they are considered as a key element for digital and data strategies

Strategic alignment of base registries and API-led reuse is crucial in realising a Public Service-wide ecosystem reducing administrative duplication through once-only collection and integrated data reuse.

# Standardising Data Management across PSBs

Key findings from the survey highlighted common obstacles to data reuse; 52% of respondents noted no formal agreements to reuse data, 48% noted an absence of exchange infrastructure for data reuse, 42% noted inconsistent or inaccurate data and 39% noted a lack of transparency of data collected and held by PSBs.

OGCIO are delivering both the implementation of a Public Service-wide API catalogue and the designation of base registries as key enablers to improving the discoverability, transparency, reliability and reusability of collected data across the Public Service. However, many respondents commented that the seismic shift from individualistic data operations and sharing practices to a consistent Public Service-wide approach to data management, governance and reuse would require strong collaboration and leadership to deliver.

One respondent noted:

*"I love the idea of base registries, I just don't think Ireland has the will to force organisations to operate them efficiently"*

### PUBLIC SERVICE API CATALOGUE IMPROVING DATA DISCOVERY AND TRANSPARENCY

Surveyed respondents collect data to fulfil specific functions unique to their organisations however, 45% of respondents are aware of other PSBs collecting duplicate information from the public. The facilitation of a central API catalogue is key to promoting greater discovery and sharing of high quality data between PSBs.

One respondent noted:

*"The ability to easily interchange well-structured data via APIs would be of great benefit in a secure and authorised manner"*

OGCIO are delivering an API-led catalogue enabling PSBs to cooperate, share and reuse data and services in a secure, transparent and controlled way. OGCIO/DGU has already commenced the process of engaging with PSBs for the potential publication of appropriate APIs on the Public Service API Catalogue that will facilitate greater discovery and reuse of collected data across PSBs.

OGCCIO are publishing API recommendations and guidelines, which will inform and guide PSBs to design, build and operate Public Service APIs to international best standards. Referencing and adopting essential API standards and guidelines will ensure consistent API management across PSBs that supports ease of API reuse between Public Service organisations.

## GOVERNANCE SUPPORTS AND STRUCTURES EMPOWERING DATA RELIABILITY AND REUSIBILITY

A key finding is that 30% of shared data requires extensive verification and validation by respondents before its internal reuse. Additional verification and validation is due to 60% of affected datasets containing inaccuracies, 40% containing redundant or out-of-date information, 60% inconsistent with data held by receiving PSBs and 40% containing mismatching identifiers.

Some respondents noted:

*"A lot of discoverable data is out of date"*

*"In some cases there is not a consistent unique identifier which makes it difficult to join the data and in other cases the data available may not be detailed enough."*

The survey found that 30% of respondents noted a lack of a framework outlining data quality standards between organisations as negatively affecting the quality of data available for reuse. PSBs adhere to internal data management practices with no overarching governance supports or structures ensuring consistent data quality between PSBs.

Many respondents highlight that the confidence of PSBs in the quality of their data could be a factor in their openness to share potential datasets for reuse.

One respondent noted:

*"PSBs may be reluctant to share data as they may feel it is not of sufficient quality to be shared."*

The Public Service Data Strategy envisages base registries as single sources of trusted data available for reuse that reduce duplicate data collection and administration practices. Base registries, underpinned by DSGA, will enforce PSBs to administrate data management practices that ensure data held is sufficiently accurate and complete for reuse. Governance structures and supports ensuring consistent quality management of base registry data will foster trust in consuming PSBs of data reusability. OGCIO/DGU is devising base registry designation criteria setting out a structured and cohesive approach that ensures the quality management of a potential dataset is of a sufficient standard during its designation process.

OGCIO/DGU have lead and delivered new data initiatives including the formalisation of Data Sharing Agreements unpinned by the Public Service Data Strategy. OGCIO/DGU are experienced with the necessary supports and structures provided by working groups and steering committees to not only to lead the delivery of a Public Service-wide ecosystem incorporating base registries, but also to drive the cultural change at a senior level needed to establish once-only collection and reuse within PSBs. The Communications and Engagement Committee is regarded as an important supporting structure to drive this cultural change across the Public Service.

### DEVELOPING ADMININISTRATIVE AND FUNDING CAPACITY FACILIATING REUSE

Almost 70% of respondents agreed that greater data reuse within the Public Service could improve the delivery of services to the public, with 45% believing that greater API-led data reuse could reduce or transform data collection though non-digital means.

Respondents noted that access to high quality data could provide an opportunity for service trends and pattern analysis leading to improved evidence based decision-making that informs future strategies to enhance service delivery.

Once respondent noted:

*"One of the aims is to create a single source of truth in relation to the data we hold and to be able to better monitor trends and garner insights."*

While 60% of respondents agreed that base registries could reduce the unnecessary collection, management and storage of duplicate data by individual PSBs, only 27% of respondents indicated an interest in being a base registry owner. The majority of those who declined interest (30%) or were unsure (42%) noted the uncertainty of the potential administrative overhead and resources required as the main challenge to their organisation being designated a base registry owner.

One respondent noted:

"Slight uncertainty if current staff workload capacity could cope with the responsibility of being a base registry and the extra workloads that this would generate"

Not only did respondents request further clarification regarding the administrative responsibilities and resources of a base registry owner, but also regarding the potential funding and workforce capacity required for the development, management and support of published APIs facilitating reuse on the Public Service API Catalogue. Respondents also noted the challenge for base registry owners to demonstrate assurance that base registry data is processed in-line with GDPR legislation.

One respondent noted:

"GDPR would have to be properly managed in this scenario as well. Any Data Subject Access Requests (DSAR) and Data Protection Impact Assessments (DPIA) processes would be very difficult to operate, as would the right for the data subject to have their personal data deleted. Very difficult to achieve assurance with this sort of model."

OGCIO/DGU will deliver a complete base registry proof of concept with a candidate base registry owner and a subset of receiving PSBs. This will help to provide a picture of the potential budgetary and administrative capacity required by owners when designating potential datasets across the Public Sector. It will also provide an opportunity to examine areas of potential value to organisations when transforming public services and improving evidence-based decision-making. It is advised where base registries are designated, PSB compliance with data quality and reuse obligations underpinned by the DSGA is transparent to governance structures.

The survey was commissioned to not only understand the potential challenges to transforming Public Service-wide data practices through base registry designation and greater API-led reuse, but also as an opportunity to collaborate with PSBs on how OGCIO, enabled by the Board, can put in supporting structures to deliver a Public Service-wide culture of joined-up data reuse.