

Outline of the ODI's draft response to the National Data Strategy consultation

Introduction

The ODI welcomes the government's National Data Strategy (NDS). Data has the power to transform society. It is vital that the government takes this opportunity to set out a coherent framework for the effective collection, use and sharing of data in the UK. **At the core of this strategy should be a recognition of data as national infrastructure** that includes data assets, standards and technologies to ensure data quality, policies and guidance to manage its use, and the capacity of people and organisations who use it and are affected by it. **The ultimate goal must be to maximise the social welfare value (which incorporates value to the economy and potential harms) of data.**

The NDS must be based on a solid foundation of good data governance, backed up by guidance and embedded good practice around how data is collected, used and shared. **Ethical principles should inform how to establish good data infrastructure.** This is especially relevant when the use of data has the potential to negatively or inequitably impact people and society, directly or indirectly. Trust will be built when stated principles are backed up **systems and structures to support transparency, accountability and redress.**

The Covid-19 pandemic has demonstrated the importance of data in a time of national crisis. It plays a vital role both to inform the policies taken to tackle the spread of the virus and as a communication tool to inform the public. **Overall, data has been used to good effect during the outbreak, although there are several areas where improvements could have been made,** particularly with how data was shared between organisations in the public, private and third sectors and in the transparency and openness of the use of data to inform decision making within government and to provide services, including digital services, to the public.

During times of crisis, decision making needs to be informed by the highest quality, most up-to-date data we have. **This can only happen if it is published in a**

reusable form and openly as possible. This will allow others to build on data, localise it, question it, visualise it, combine it and compare it with other datasets. The government should play a central role in ensuring the data people and organisations need is accessible to them and investigate acting **as a data steward for data from the private sector that could have a beneficial impact on the wider economy.**

Government needs to **focus on making the boundaries between data silos more porous, for example by adopting more open ways of working to enable low friction, ad-hoc collaboration and data sharing.**

There also needs to be recognition of the importance of decentralisation of data collection, maintenance, and use, with clarity over the powers and responsibilities of local government, arms length bodies, and regulators around data. A lot of data is useful at the local level, or within specific sectors; **organisations outside central government need to be able to shape appropriate data infrastructure to meet the challenges they face in their contexts. Data institutions could support this by acting as focal points for collaboration across a community.**

The pandemic should also be the starting point for public sector bodies including local authorities to invest in skills, improving data governance processes and opening and sharing data more enthusiastically.

In developing our response to the National Data Strategy consultation, we have drawn on our ODI manifesto points of data infrastructure, capability, innovation, equity, ethics, and engagement, for creating a trusted data ecosystem that works for everyone.

For more about these topics, please see consultation questions 1 and 2

For more about ODI's recent work in this area, please see:

- [Getting data right: perspectives on the UK National Data Strategy 2020](#)
- [How greater transparency can help people get back to work with confidence – The ODI](#)
- [Octopub – The ODI](#)
- [COVID-Secure Check](#)

Infrastructure

INFRASTRUCTURE: Sectors and societies must invest in and protect the data infrastructure they rely on. Open data is the foundation of this emerging vital infrastructure.

In today's economy, **every business or organisation is a data business or organisation and, as such, every sector has a great deal to gain from better data availability.** Identifying those sectors with the most to gain is a complex problem, not least given the challenge of quantifying the value of data¹. However, preliminary work has been carried out by the European Data Portal in their report on the *Economic Value of Open Data*² which identifies Public administration; Professional, scientific and technical activities; ICT; and Transportation and storage as having proven and successful open data impact and Agriculture; Financial services and insurance; Health; Education; Wholesale retail and trade; Real estate as having high potential.

Our experience is that **drawing boundaries around data from different sectors is unhelpful: much of the potential value of data comes from sharing data across sectors and that a narrow focus on individual sectors is likely to miss opportunities for innovation, wealth creation and social value.** This is equally true for sharing data between the public and private sectors. We find that it is more helpful to take a challenge-focused lens to prioritising activities around data, aligned with government priorities. For example, given the Government's commitments towards the Green Industrial Revolution³, we would recommend prioritising data that supports and enables those investments.

At the same time, there are a number of **fundamental datasets that can add value in multiple sectors, such as geospatial data and demographics. All sectors will benefit if data about places and people are made available in sustainable and well-governed ways.**

The more data is available, the more opportunities there will be for companies and social enterprises to make useful products and services using that data, creating jobs and driving economic growth in the digital economy. The government has a critical role to play in enabling better availability of data. As both a user and provider of data, it needs to be thinking about how data flows between all kinds of sectors, organisations, people and communities, and in all directions. While doing so, **government also has to recognise the human, environmental and market effects of the data economy. The data economy has particular**

¹ [Research projects at the Bennett Institute for Public Policy](#)

² [Open Data Impact – European Data Portal](#)

³ [PM outlines his Ten Point Plan for a Green Industrial Revolution for 250,000 jobs – GOV.UK](#)

characteristics that mean the market won't fix many of these problems⁴.

Excessive surveillance has knock-on effects on people's lives and wellbeing. Increasing access to sensitive data – whether about people, critical national infrastructure or our environment – creates a greater surface area for attacks, increasing the risk of data breaches and the knock-on harms they cause. Organisations that exclusively hold and get good at supplying certain types of data can become powerful, market-distorting, platforms for that data.

We would recommend the adoption and consistent use of the term 'data infrastructure'⁵ as defined in the glossary, which can be broken down into:

1. Data assets, such as datasets, identifiers, and registers.
2. Standards and technologies used to curate and provide access to data assets.
3. Guidance and policies that inform the use and management of data assets and the data infrastructure itself.
4. Organisations that govern the data infrastructure.
5. The communities involved in contributing to or maintaining it, and those who are impacted by decisions that are made using it.

Part of government's role in supporting strong data infrastructure in the wider economy will be to **provide practical guidance and tools that demonstrate best practice and support the development of the data ecosystem**. In particular, government must lead the way by providing a strong data infrastructure for the wider economy with the publicly funded data that it stewards itself, including foundational datasets such as geospatial data, data about people, and data about organisations.

Government also has a role in **setting and supporting the development and adoption of open data standards to strengthen the data infrastructure in the wider economy**. Significant amounts of work have already been done to develop and promote the use of open standards for data, including by the Government Digital Service's Open Standards Board⁶ and the ODI^{7, 8}. **Standards, in general, help to consistently publish and use data. They are a tool that can help to shape markets, create ecosystems and implement policy** by making it easier for people and organisations to publish, access, share and use better quality data.

In economic terms⁹, **standards transform published data sets from opaque, bespoke items to commoditised products that are reliable, safe, high**

⁴ [Research projects at the Bennett Institute for Public Policy](#)

⁵ [Data Infrastructure – The State of Open Data](#)

⁶ [Open Standards Board - GOV.UK](#)

⁷ [What are open standards for data? – The ODI](#)

⁸ [Announcing the open standards for data guidebook – The ODI](#)

⁹ [Economic impacts of open standards – The ODI](#)

quality, reproducible, interoperable, scalable and have economic utility.

Data users would no longer need custom code and processes to use new datasets. This reduces the cost of both producing and using data, meaning an organisation can focus on providing value at any stage along the pipeline. The adoption of open standards for market-critical data can help to disaggregate authority: stakeholders (including market leaders and authorities) stop using bespoke and proprietary formats and instead use cooperatively produced and shared standards. This **levels the playing field for data production and data use, allowing new uses of data and new entries to the market.** An additional benefit can be certification of compliance from standards bodies, which can act as a badge of trust and build confidence.

For more about this topic, please see consultation questions 2, 4, 5, 6, 6a, 7, 12.2, 12.3, 13, 17

For more about ODI's recent work in this area, please see:

- [Digital twins: needs, challenges and understanding](#)
- [Valuing data](#)
- [Data institutions](#)
- [Open standards for data](#)
- [Collaborative data maintenance](#)
- [COVID-19 Mobility Data Network](#)
- [Data infrastructure for common challenges](#)
- [How to write a good open data policy](#)
- [Legislation for data infrastructure and open data: what would it look like?](#)
- [The UK National Data Strategy: data as infrastructure, data for infrastructure](#)

Capability

CAPABILITY: Everyone must have the opportunity to understand how data can be and is being used. We need data literacy for all, data science skills, and experience using data to help solve problems.

Skills is rightly chosen as one of the Pillars of the NDS and much work has been done to understand and promote data and digital skills at all stages of the educational pipeline. For example, work done by the ODI on The Data Skills Framework¹⁰ breaks down the complex landscape of data skills into the sets of skills required by different people in an organisation. It illustrates how **technical data skills must be balanced with 'softer' skills that promote leadership,**

¹⁰ [Data Skills Framework – The ODI](#)

good data governance and stakeholder engagement, along with business skills that enable data innovation.

As with central government use of data, all the basic pillars set out in the NDS will need to be addressed at the local level. Perhaps most important will be to invest in local human capacity. **Local authorities could lead on innovation and better public services using data but opportunities are being missed because the workforce lack data skills and data leadership.** Here, the focus should be on foundational data skills and strategic data skills for leaders that will provide a core understanding of the subject and point towards the practical skills that might be needed in the future. Many training courses and tools exist, such as those offered by the ODI¹¹, that could help build the skills needed at all levels of local government.

Skills can be a particular challenge for SMEs and we welcome the recognition given to this issue in the NDS. Addressing this will require access to suitably qualified and experienced staff (often in high demand) as well as upskilling and training of existing staff. Measures already announced or expected through the Office for Talent and the National Skills Fund are a start. But increased and continuing financial support, such as a voucher scheme, will be needed to provide access to education and training services for SME employees - particularly in sectors that are less digitally developed and need more digital innovation to meet the needs of consumers and people.

Capability in data protection and compliance with the law also require particular consideration with respect to SMEs. Failure to establish a coherent data protection framework will become a profound barrier for companies and businesses of all sizes to function. Similarly, a complex regulatory regime will have a disproportionate impact on SMEs and we welcome the proposals in the NDS to work with the ICO to address this issue.

Government should consider **stimulating the creation of open source tools for common data tasks**, such as data management, storage, publication, transformation, analysis, visualisation and so on, alongside non-software tools such as checklists, templates, canvases and so on. The availability of open source tools would lower the costs for SMEs to work with data.

For more about this topic, please see consultation questions questions 2, 4, 7, 8, 12.2, 12.4

For more about ODI's recent work in this area, please see:

- [Data Skills Framework](#)
- [Fiascos and the future - why data literacy is essential](#)
- [How to write a good open data policy](#)
- [Data and Public Services Business Case Canvas](#)

¹¹ [Data Skills Framework – The ODI](#)

- [Publishing open data in a time of crisis](#)
- [The UK National Data Strategy 2020: skills that count](#)

Innovation

INNOVATION: Data must inspire and fuel innovation. It can enable businesses, startups, governments, individuals and communities to create products and services, fuelling economic growth and productivity.

Open innovation offers significant potential to drive economic growth at the regional level. As noted in the consultation, **the Data Pich programme was shown to enable startups from outside traditional innovation hubs in capital cities to participate in data innovation, and that access to data outside the programme improved startups' ability to attract funding.**

In terms of benefits, cities and regions offer good opportunities for effective data sharing projects. They can often be set up to **deliver specific local solutions that have more immediate outcomes for citizens.** Such projects can demonstrate the benefits of data sharing more effectively than more complex national projects and help to build public trust. Projects may be run wholly by local authorities delivering public services. But, equally, the **involvement of the private sector or local data collectives and institutions should be encouraged and supported.** This could build on the so-called 'Triple Helix Approach', which is public sector, private sector and academia or collaborations between the public sector and academia such as the Urban Observatories¹².

Government could provide **funding to SMEs that are solving crucial societal challenges via organisations running support programmes for startups and SMEs, such as incubators, accelerators and innovation agencies.** The Seed Enterprise Investment Scheme¹³ and Enterprise Investment Scheme are good examples of government support schemes, as is InnovateUK grant funding.

Government should consider ways to **directly incentivise large companies to make more, higher quality and diverse data openly available, so that SMEs can benefit from it.** Possible options are to make it a requirement in all government procurement contracts, establishing it as a requirement for membership of trade bodies or providing tax relief for data that is made available. Better data portability can be enabled through mandating or encouraging open APIs for regulated industries such as has been done in the banking sector, as noted in the consultation in relation to Open Banking.

Government should also **extend the data portability right, which is currently focused on natural persons, to organisations, so that businesses are equally able to switch services and take advantage of insights and**

¹² [Urban Observatory – Newcastle University](#)

¹³ [Use the Seed Enterprise Investment Scheme to raise money for your company – GOV.UK](#)

innovations made available by third parties. Open Banking was originally conceived as helping SMEs; Smart Data approaches should apply equally to businesses as to individuals.

For more about this topic, please see consultation questions 4, 8, 18

For more about ODI's recent work in this area, please see:

- [Scaling data innovation](#)
- [Trade, productivity and international innovation](#)
- [What are the links between data infrastructure and trade competitiveness?](#)
- [The UK National Data Strategy 2020: innovation with impact](#)

Equity

EQUITY: Everyone must benefit fairly from data. Access to data and information promotes fair competition and informed markets, and empowers people as consumers, creators and citizens.

The ODI agrees with the NDS assessment that data can be a powerful tool to understand and tackle bias and exclusion. **Digital technologies based on large, rich datasets, such as AI, can be a force for good, but can also reflect and entrench existing biases and discrimination.** While we support the aims of the NDS to ensure that government, civil society and private sector actions treat people equitably, there needs to be more concrete proposals on how to address these issues.

Monitoring who uses digital services is a vital step in ensuring that they are fair and inclusive and there is, at present, no consistent process for the collection of protected characteristics by digital public services. This needs to be implemented before any impacts, good or bad, can be accurately assessed. **In doing so, it is essential that data on protected characteristics should be anonymous, optional and stored separately from any other element of a service.**

The act of data collection about people with protected characteristics by those without can itself be seen as a form of disenfranchisement, disempowerment and exploitation, which leads to some communities becoming unwilling to take part in data collection, or distrustful of data-driven applications. Thinking arising from the indigenous data governance community¹⁴ emphasises the importance of communities to be able to tell their own stories with data, and lead, or at least be involved, in determining how data is modelled and what questions are

¹⁴ [The CARE Principles for Indigenous Data Governance – Data Science Journal](#)

asked of it. The ONS has modelled an approach to this in its consultations¹⁵ around questions about gender identity within the 2021 census.

It may be the case that **the protected characteristics set out in the Equalities Act 2010 are not the only important characteristics to understand inequities**. Others such as socio-economic or regional characteristics may also be relevant. Also, the intersection of multiple characteristics may be of significance to identify and understand more nuanced cases of discrimination. We recommend that organisations are encouraged to carry out an equalities impact assessment, which may be part of a wider data ethics assessment, and publish it openly, to help motivate and enable others to do the same and to build trust that such issues are being considered during the development of data-based analyses or services.

We also urge that **equality, diversity and inclusion considerations be brought to bear on all aspects of the NDS**. This should go beyond the narrow remit of the 2010 Equality Act and consider both the specific considerations around intersectionality of different protected characteristics, and also individuals or communities who might not be protected by equality legislation but are statistically more vulnerable to forms of prejudiced exclusion and structural disadvantage. Ultimately, the goal should be an equitable economy that has fair opportunities for all.

In terms of the UK's data protection framework, **the government should build on GDPR rather than undermine it**. In particular, rather than focus on improving individual data protection, we believe the government should develop and use a broader definition of responsible and trustworthy data governance based on the principles of ethics, engagement and equity, and democratic oversight that recognises the relational nature of data¹⁶. Additionally, the data portability right should be seen more broadly as a right of account holders including organisations (legal persons) as well as by people (natural persons).

If changes are deemed to be necessary post-Brexit, the UK should create its own framework which uses GDPR as the foundation. This should **include group rights, rights for business, more detail and scoping on data portability, consideration of how consent can be more dynamic, a guarantee that rights will be protected, recognition that data about us is not something that we 'own' but rather something we have rights over**, and consideration as to how the data economy addresses the issue of online advertising and the consequent tracking and profiling of citizens.

Data adequacy should be a two-way arrangement between countries, so while the UK seeks data adequacy from others, it must also assess their data adequacy and

¹⁵ [Gender identity update - Office for National Statistics \(ons.gov.uk\)](https://ons.gov.uk/genderidentityupdate)

¹⁶ [Democratic Data: A Relational Theory For Data Governance by Salome Viljoen – SSRN](https://ssrn.com/abstract=3444444)

the protections granted to UK citizens and businesses. **We would encourage the UK's data adequacy assessment criteria and process to be clear and transparent**, both to provide predictability about the process itself for other countries, and to provide assurance to UK citizens and businesses that the process is robust.

Overall, the UK Government should continue to pursue the vision of the UK as (in the Prime Minister's own words) a "global leader in ethical and responsible technology"¹⁷. This means **more than retaining the rules laid out in GDPR; it means building and innovating on top of those rules to demonstrate leadership in data governance.**

For more about this topic, please see consultation questions 2, 3, 9, 10, 11, 19

For more about ODI's recent work in this area, please see:

- [About Data About US](#)
- [Nearly 9 in 10 people think it's important that organisations use personal data ethically](#)
- [Evolution of data requirements in international trade agreements](#)
- [Data 2020: Data rights and ownership](#)
- [Beyond ownership: we need better control and rights over data](#)
- [Monitoring Equality in Digital Public Services](#)
- [The dividing line: how we represent race in data \(by Eleanor Shearer for the ODI\)](#)
- [The UK National Data Strategy 202: equity, fairness and rights](#)

Ethics

ETHICS: People and organisations must use data ethically. The choices made about what data is collected and how it is used should not be unjust, discriminatory or deceptive.

Data ethics relates to good practice around how data is collected, used and shared. It is a core principle of establishing good data infrastructure that is especially relevant when the use of data has the potential to impact people and society, directly or indirectly, as is the case with public services and policy making.

¹⁷ [PM speech to the UN General Assembly: 24 September 2019 – GOV.UK](#)

We strongly agree with the need to build principles of fairness, transparency and trust into government's use of data and AI.

The complexity of evaluating the ethics of the use of data should not be underestimated, particularly where it involves contracts to share personal data between public and private actors. This was highlighted in a recent case where the Department for Health and Social Care entered into a partnership with Amazon¹⁸ and has been a consistent theme throughout the pandemic. Government has to be proactively open about its use of data – including the details of its relationships with private sector organisations, and their access to data – to retain trust and to avoid misconceptions and conspiracy theories that undermine public trust in government.

Demonstrating that government collection, use and sharing of data is ethical is crucial to maintain public trust. A recent survey¹⁹ conducted by the ODI and YouGov found that nearly 9 in 10 people (87%) feel it is important or very important that organisations they interact with use data about them ethically. Only around 30% of respondents trusted central or local government to do so. Government has to work proactively to build the trust of the public.

Building trust should be explicitly considered at all stages in the data lifecycle:

- When stewarding data, that is, the collection, maintenance and sharing of data
- When creating information from that data in the form of digital services, analyses and insights, or stories and visualisations
- When deciding what to do based on data, in automated and non-automated decision making, or during evidence-based policy-making

Embedding ethical data practices is one part of building this trust. We welcome the Data Ethics Framework²⁰ developed by the government. However, it is not clear the extent to which it is being adopted and used, nor who is monitoring and holding to account government teams, to ensure data ethics assessments are completed properly. This needs to be remedied through clarity about which independent body (such as ICO, the NAO or CDEI if made independent) is responsible for holding the government to account over its use of data. **As a matter of good practice, the results of these assessments also need to be made public so that they can be scrutinised and to provide assurance to the public that the ethics of data projects have been properly considered.**

The government's Data Ethics Framework is a promising guide to help data stewards in government and the wider public sector understand and address

¹⁸ [Jeni Tennison on Amazon's access to the NHS website – how has it come to this? – The ODI](#)

¹⁹ [Nearly 9 in 10 people think it's important that organisations use personal data ethically – The ODI](#)

²⁰ [Data Ethics Framework – GOV.UK](#)

ethical considerations in their use of data. It includes the essential principle of accountability, which along with transparency and fairness, is necessary to build trust. **One way in which the government could increase trust in its own handling of data and use of AI would be for there to be an independent body actively monitoring and holding public sector bodies to account.** We also see the importance of ongoing monitoring of the use of data and AI both within government and across the rest of the economy, and for supporting public sector organisations, including regulators, who are adopting data and AI.

For more about this topic, please see consultation questions 3, 4, 9, 10, 11, 11a, 12.5, 12.6

For more about ODI's recent work in this area, please see:

- [The Data Ethics Canvas](#)
- [Data rights and ownership](#)
- [Open communications: an open trustworthy data ecosystem for telecommunications sector](#)
- [Jeni Tennison on Amazon's access to the NHS website - how has it come to this?](#)
- [The UK National Data Strategy 2020: doing data ethically](#)

Engagement

ENGAGEMENT: Everyone must be able to take part in making data work for us all. Organisations and communities should collaborate on how data is used and accessed to help solve their problems.

Transparency is a core principle of the government's Data Ethics Framework, which also highlights the importance of engagement with external stakeholders, including experts, civil society organisations, target users, and the general public. **To build trust with the public, we would strongly encourage the government to be proactively open and transparent about its collection, use and sharing of data, and to listen and respond to concerns.** Many of the headlines that undermine trust in the government's handling of data are the result of a lack of openness and transparency, which means the public is surprised, that the government misses early opportunities to spot and fix problems, and that space is left for misinformation and conspiracy theories to thrive. Government should invest in good communications support around data projects.

An emerging trend to facilitate the availability of data is the development of data institutions²¹ – organisations whose purpose involves stewarding data on behalf of others, often towards public, educational or charitable aims

²¹ [Data institutions – The ODI](#)

and often act as intermediaries between data holders and potential data users. These can take a variety of forms including data co-ops, data unions, data coalitions, and bottom-up data trusts. Data institutions play a number of vital roles, including:

- holding data on behalf of an organisation or person, or group of them, and sharing it with others who want to use it for a particular purpose.
- combining or linking data from different sources, and providing insights and other services back to those that have contributed data.
- creating open datasets that anyone can access, use and share to further a particular mission or cause.
- developing and maintaining common data infrastructure for a sector or field, such as by registering identifiers or publishing open standards.

Such data institutions support people and communities to take a more active role in stewarding data about themselves and thus provide a way to improve data governance and increase trust. Government needs to be aware of their utility, create an enabling environment to support them (for example by funding research that helps them tackle the common challenges they face), and in some cases fund their scoping, co-creation and/or operation.

Issues of privacy and security will need to be taken extremely seriously when handling consumer data. Any breaches could have harmful immediate consequences and undermine trust more generally. Vulnerabilities will need to be well understood as these will change depending on the circumstances. Mitigating measures may need to be put in place such as anonymisation or synthetic data to protect consumer rights. **It should also be noted that consumer data may be used to support non-digital services and that the benefits of all new products and services should be made available to all consumers - not just those that are digitally proficient.** This may involve support for carers and intermediaries that provide support in the community. This raises the issue of data rights and ownership which is an ongoing issue that the government should be aware of²².

The potential of Smart Data should not be limited to simply enabling individual consumers to switch between service providers. It also opens up the opportunity to create new products and services that provide additional insights. We recommend prioritising the development of data portability standards towards facilitating the creation of these new services, beyond switching.

Benefits may also be felt by the individual. **Consumer data may be brought together to create public goods that will, in turn, benefit larger numbers of**

²² [Data 2020: Data rights and ownership – The ODI](#)

citizens. This is envisioned as the creation of 'data altruism organisations' within the European Commission's Data Governance Act²³ and in some conceptions of "data trusts". We recommend examining the proposals arising from the European Union and places like India²⁴ for ways to monitor and regulate these types of data institutions.

For more about this topic, please see consultation questions 3, 2, 6, 6a, 9, 10, 12.5, 12.6

For more about ODI's recent work in this area, please see:

- [The UK National Data Strategy 2020: engaging for resilience](#)
- [How greater transparency can help people get back to work with confidence](#)
- [Data institutions - the ODI](#)
- [About Data About US - the RSA](#)
- [Nearly 9 in 10 people think it's important that organisations use personal data ethically](#)

²³ [Proposal for a Regulation on European data governance \(Data Governance Act\) | Shaping Europe's digital future – European Commission](#)

²⁴ [Practising data stewardship in India, early questions – Ada Lovelace Institute](#)