techUK
FOR WHAT COMES NEXT

Data sharing: getting the UK back on the right track

Introduction

Data is being produced and stored at an unprecedented pace. Research by the Organisation for Economic Co-operation and Development (OECD), suggests that data access and sharing can create 20 to 50 times more value for the wider economy (induced impact), and help to generate social and economic benefits worth between 1% and 2.5% of GDP.[1]

The importance of data sharing and data access is not just increasing amongst high growth firms; existing businesses, Government, and the public sector are ever more reliant on personal and non-personal data to drive research, develop technologies such as AI and digital identity products, and offer better services to citizens, such as more resilient healthcare services, smart city initiatives and solutions that can help make our environment greener. However, the economic and social potential offered by greater data sharing and data access is not being seen.

Research commissioned by the Government identifies six barriers to data sharing between private and third sector organisations:[2]

1. **Lack of incentive to share data**

2. **Regulatory and legal risks**

3. **Lack of knowledge**

4. **Cost of data access/sharing**

5. **Commercial, reputational and ethical risks**

6. **Missed opportunities to use data in the public interest**

These barriers extend beyond the private sector with many public sector organisations facing similar challenges such as limited knowledge and expertise on data, risk averse attitudes to data sharing and a lack of emphasis on the benefits of data sharing.

---

1. Economic and social benefits of data access and sharing | Enhancing Access to and Sharing of Data : Reconciling Risks and Benefits for Data Re-use across Societies | OECD iLibrary (oecd-ilibrary.org)
2. INCREASING ACCESS TO DATA ACROSS THE ECONOMY (publishing.service.gov.uk)

The Government also has a long-standing challenge of lacking a data-first culture, which has meant there are not enough data champions and leaders in Departments who are prioritising data issues.[3]

These barriers will not resolve on their own and to ensure data's value is distributed equally across the economy and society, Government must take a lead to provide the right framework, tools, and resources to support organisations in sharing data responsibly and fairly. This must be underpinned by appropriate safeguards, ethical considerations and strong public trust.

The Government has made a good start by outlining key missions in the National Data Strategy (NDS) including Mission 1, *Unlocking the value of data across the economy, and Mission 3, Transforming Government's use of data to drive efficiency and improve public services.* While techUK has welcomed these core Missions of the NDS, current efforts and policy-making that should aim to deliver these benefits, risks losing momentum and undermining the ambitions of the Government.

Action here is required as while the UK was once a leader in debates around open data, we are now falling behind key competitors in our ability to lead global debates on future data governance. For example, the European Union (EU) is investing heavily in its data infrastructure and capabilities and developing legislation and regulation to enable private and public sector data sharing at a faster pace than the UK.

In this Whitepaper, techUK and its members set out policy recommendations that will help to facilitate a more focused and coherent approach to data sharing and can ensure the value and benefits of increased data use are enjoyed across the entire economy and society.

---

3. Kantar_research_publication.pdf (publishing.service.gov.uk)

Policy Recommendations

1. Step up work to facilitate voluntary, trusted, and responsible avenues for private and third sector data sharing, including delivering on the BEIS Smart Data workstream and Mission 1 of the National Data Strategy,

2. Ensure that ethical considerations underpin the sharing of data, particularly personal data,

3. Deliver a more joined-up National Data Strategy, by offering greater visibility on the execution of Mission 3 and opportunities for industry engagement,

4. Outline a clear plan for the continued opening up of Government and public sector data sets, with the aim to move towards near real-time reporting of data,

5. Collaborate with industry to understand challenges related to data quality and develop a set of industry-driven standards to address these barriers,

6. Invest in sufficient resources to map regional data ecosystems, and set realistic benchmarks for the gathering of local government data,

7. Narrow the data skills gap and combat skills shortages by investing in training, upskilling, and reskilling of the UK's workforce.
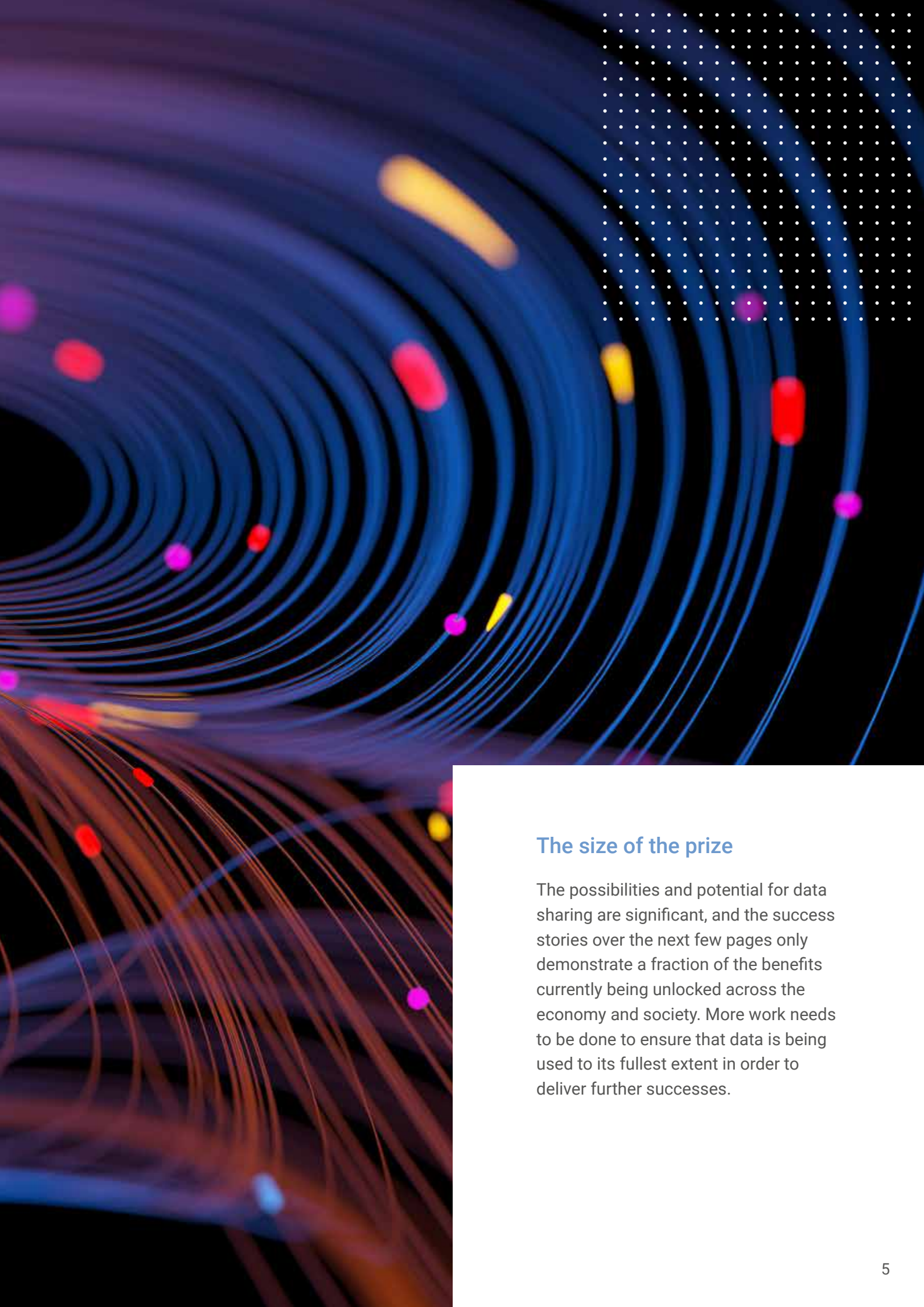
The size of the prize

The possibilities and potential for data sharing are significant, and the success stories over the next few pages only demonstrate a fraction of the benefits currently being unlocked across the economy and society. More work needs to be done to ensure that data is being used to its fullest extent in order to deliver further successes.

Inhealthcare improves flow of hospital information to NHS community services in East Yorkshire

Inhealthcare, a leading provider of virtual healthcare services, is working with the NHS on a pioneering project in East Yorkshire to improve the flow of information between different parts of the healthcare system. The project aims to boost NHS productivity, increase the visibility and status of patients within the system and improve health outcomes. Inhealthcare is supplying Hull-based City Health Care Partnership, a provider of NHS services in community settings, with vital data about the admission, discharge and transfer (ADT) of patients within the region.

The company is the first organisation to use the ADT subscription service offered by the Yorkshire and Humber Care Record, part of the NHS Local Health Care Record Exemplar (LHCRE) programme to join up health and care data. Inhealthcare established the communication between its platform and the electronic care record infrastructure using Fast Healthcare Interoperability Resources (FHIR), the global industry standard for sharing health data developed by HL7. The data is presented to CHCP via an easy-to-read dashboard and integrated into community care records.

Jamie Innes, Product Director at Inhealthcare, said:

"This smart use of technology behind the scenes improves the flow of information between NHS organisations delivering healthcare in primary, secondary and community settings. The project will help the NHS to spot efficiency savings, see patients and their status at any time and free up hospital beds with confidence that discharged patients will be picked up by community providers. This is just one example of how digital and data can join up care for people, places and populations."

LexisNexis® Risk Solutions, part of RELX provides a comprehensive picture of UK financial exclusion

By combining two of the UK's largest Credit Reference Agencies (CRAs), short term loan applications and around 30 alternative public and private sources, LexisNexis® Risk Solutions has carried out in-depth analysis to provide a detailed, regional overview of financial exclusion and its underlying causes across the UK adult population

Using powerful statistical linking technology, the analysis brings together data from across 380 UK local authorities or 2.6 billion records showing right down to a community level how financial exclusion is distributed across the UK population, and how regions compare.

Analysis of financially excluded individuals found that as many as 77% could be helped using alternative data solutions, meaning a further 5.5 million UK adults could gain access to fairer and more affordable financial services, for the first time ever.

Steve Elliot, Managing Director at LexisNexis® Risk Solutions says:

"Our study reveals a staggering flaw in the UK credit sector at the moment. It is increasingly clear that credit scoring methods relying on generic credit history trends are becoming ineffective in the face of an increasingly dynamic UK population in which people's lives are nuanced and complex. Placing people in broad risk buckets using limited data and models that have not changed in decades is a system that needs urgent rethinking. By using alternative data, we can help build a clearer, fairer and more realistic picture of a person's creditworthiness and drastically reduce the problem of financial exclusion."

Greater Manchester Combined Authority maps geo-spatial data to support local areas and citizens

Developed by the Greater Manchester Combined Authority (GMCA) and Salford City Council, MappingGM is a mapping portal which visualizes spatial information to help both the public and public sector workers understand local areas.

Working with public, private and third sector partners, MappingGM has developed several maps such as "People and Communities", which offers consistent socio-economic and demographic data about people and communities across Greater Manchester. It also provides information on the provisions of services in an area such as post offices and GP surgeries, and socio-economic information such as typology of residents. MappingGM's maps and projects have supported local authorities in delivering better services and engaging with the public. Maps have also been developed to visualise housing and infrastructure data, as well as upcoming proposed changes to walking and cycling routes in the city, allowing citizens to contribute and offer feedback on potential improvements.

 GMCA has recently worked closely with the UK Government's Centre for Data Ethics and Innovation on the organisation's approach to ethical use of new data and technology. The MappingGM team is reviewing the tool's information governance processes and procedures to put ethics at the heart of it all. The team is exploring how MappingGM is best implementing the Declaration on responsible and intelligent data practice, from Open Data Manchester, which the GMCA has signed up to.

Chris Pope, Principal for Digital and Information Research at Greater Manchester Combined Authority says:

"MappingGM was originally created because mapping information had not been brought together before in a consistent and coherent way at a city region level. Since its inception, it has become more than just a map for us. It has been used to open up more information about Greater Manchester; to share proposals with the public; and to crowdsource information about Greater Manchester, such as on proposed cycling and walking routes.

 It is important now that we take our work beyond this project level approach to be a whole-system approach. A website and service that responds to users' needs and has ethics at the heart of our data sharing approach."

Recommendations

1. Step up work to facilitate voluntary, trusted, and responsible avenues for private and third sector data sharing, including delivering on the BEIS Smart Data workstream and Mission 1 of the National Data Strategy,

To ensure businesses of all sizes and sectors can thrive in a data-driven economy and society, the availability of data to firms of all sizes is vital. Access to more, high-quality data is essential for powering the UK's world-class R&D ecosystem and enabling businesses to develop innovative digital products and services.

techUK supports measures that will encourage voluntary data sharing, where appropriate, across all sectors and industries. Government must seek to develop market mechanisms to deliver trusted avenues for commercial data sharing arrangements that are fair and inclusive. However, it is important that interventions do not drive investment away from good data practices or stifle emerging business models and innovation. Regulators will also need to find a balance between competing priorities of boosting competition in digital markets through increased data sharing while not undermining privacy and data protection standards.

The NDS Mission 1 Policy Framework is a welcomed start in identifying the key barriers to private and third-party data sharing and setting out appropriate levers for policy intervention. The Government has rightly recognised the need to support the infrastructure underpinning data sharing such as stimulating Privacy Enhancing Technologies (PETs) and data intermediary ecosystems and encouraging the market to share data in ways that support competition.

It is also encouraging to see that Government has recognised the role of the BEIS Smart Data Workstream in helping to achieve the aims of Mission 1 for highly regulated sectors, as well as considering how these schemes interact with the data protection regime and consumer rights.

However, the Government needs to move beyond policy thinking and begin to implement the interventions outlined under the Mission 1 Policy Framework. This includes making progress in laying primary legislation for Smart Data, which has lost momentum, and ensuring industry has continued visibility of its progress. Failure to do so risks the Government falling behind the pace of innovation at home, and in its ability to lead international approaches to private sector data sharing.

There is also a role for regulators to play in stimulating discussions on the benefits of open data, highlighting success stories, and setting a level of ambition for industry to achieve. For example, Ofwat has published a paper, H$_2$Open, which explores how open data can enable water companies to create value for water customers, communities and the environment.

2. Ensure that ethical considerations underpin the sharing of data, particularly personal data,

Ethical considerations should underpin the use of all data, especially in circumstances where risks to privacy or other fundamental rights are identified. Public trust is vital in upholding the frameworks and systems in place to facilitate the responsible use of data, such as the data protection regime.

As data sharing increases, there is a key role for the Centre for Data, Ethics, and Innovation (CDEI) to play in ensuring that the right thinking is taking place on how data should be shared and used in ways that are responsible, ethical, and inclusive. It is vital that any work the CDEI undertakes is joined up with the various Missions under the NDS as well as regulators to avoid duplicative or conflicting work.

techUK has welcomed the CDEI's detailed exploration of the ethics underpinning BEIS' Smart Data Workstream and encourages Government to publish these findings to help organisations understand the role public trust plays in consumers' participation in these schemes. However, much more work will need to be done to better understand public perceptions on data sharing more widely, and how it impacts their engagement and appetite to share data.

Government and regulators will also need to look closely at the impacts data sharing may have on innovation and competition. While greater data availability will be vital in stimulating both, how and in what form that data is shared must also be a key consideration. Ultimately, data sharing should be facilitated in ways that encourages firms to innovate, rather than be nudged to copy what already exists in the market.

This applies to both personal and non-personal data. Government should also work with regulators to explore the use of synthetic data to boost data availability and support work through the Digital Regulation Cooperation Forum (DRCF) to find the right balance between objectives to boost competition and innovation while also protecting privacy and intellectual property.

3. Deliver a more joined-up National Data Strategy, by offering greater visibility on the execution of Mission 3 and opportunities for industry engagement,

Data is arguably one of the Government's most valuable assets and can be leveraged to offer better services and outcomes for citizens and make more informed public policy decision-making. For example, council-led initiative Community Solutions is being used to link datasets to provide insights that are driving targeted interventions to increase financial inclusion for vulnerable individuals.[4]

techUK has welcomed Mission 3 of the NDS which intends to transform Government's use of data to drive efficiency and improve public services, led by the Central Digital and Data Office (CDDO) in Cabinet Office. However, greater visibility of how the CDDO is delivering on the aims of Mission 3 of the NDS would be welcomed by techUK and members. This is particularly relevant for SMEs, where increased uncertainty on Government's activities can hinder innovation and appetite to develop new products and services.

A lack of understanding on how Mission 3 is being taken forward is leading to concerns that a data strategy is emerging which appears disjointed, with Mission 3 activities being inaccessible by industry. The DCMS NDS Forum has played a strong and effective role in ensuring a diverse range of perspectives are helping to inform the implementation of many Missions of the NDS.

There could be a role to be played by the NDS Forum in relation to Mission 3. This could include outlining clear opportunities and pathways for industry collaboration and mapping out how the CDDO is working with other Government Departments to achieve the objectives of Mission 3. For example, the CDDO could set up a workstream under the NDS Forum to provide regular updates and opportunities to forum stakeholders who make up the wider UK data ecosystem.

4. Outline a clear plan for the continued opening up of Government and public sector data sets, with the aim to move toward near real-time reporting of data,

techUK and members have long called for the opening up of key Government datasets which will support the development of new products and services, particularly digital identity technology. Although the UK was ranked a world leader in Open Data initiatives in 2017, it is disappointing to see the UK take a step backwards.

---

4. How can Data and Analytics help Local Authorities improve Financial Inclusion? (techuk.org)

techUK believes the UK can lead again in this area. There are great success stories that are being seen as outlined below. But if we are to see more emerge, and the UK to regain its leadership in this area, action is needed now to make sure this happens.

Transport for London (TfL) is a strong example of an organisation releasing data to spur innovation and improve user journeys. TfL's data, which included real-time feeds and transparency-oriented datasets, stimulated an app economy that is making a real contribution to London. According to research, the release of open data by TfL is generating annual economic benefits and savings of up to £130m for commuters, London and TfL itself. It has also allowed companies to use and re-use TfL data commercially, with estimates projecting a gross value add, of up to £15 million per annum and the creation of 500 high productivity jobs that would have not existed otherwise.[5]

To encourage more success stories, Government must consult with industry and organisations to better understand which data sets could unlock the most value if opened up and outline a clear plan on how this will be put into action. For example, in the case of digital identity solutions, access to databases which include marriage registry, births and deaths registries, the passport register, and land registry entry would be most useful.

5. Collaborate with industry to understand challenges related to data quality and develop a set of industry-driven standards to address these barriers,

There is a key role for standards to play in addressing barriers to data sharing which are caused by poor data quality or lack of consistency in how data is collected and stored.

techUK has welcomed the Government's intention to address these challenges through its Mission 1 Policy Framework, such as by mapping types of data standards, identifying any gaps and supporting the implementation of good data standards in priority sectors or applications. However, Government must ensure that the defining of common standards is industry-driven and part of a partnership approach involving both large and small industry players, and other stakeholders.

Government should work with industry and standards bodies, such as the British Standards Institution (BSI), both in the UK and internationally to promote the development of standard formats and good practices so that quality and compatibility is installed as a basic principle of data collection. It is vital that the right balance of voices is included and involved in the development, drafting, and testing of any technical standards.

In addition to standards, other avenues for intervention includes self-regulatory initiatives, technical tools and solutions, and the promotion of industry best practice.

---

5. Assessing the value of TfL's open data and digital partnerships

6. Invest in sufficient resources to map regional data ecosystems, and set realistic benchmarks for the gathering of local government data,

For the UK to truly become digitally driven, it is important to understand and assess the impact that technology is having on a particular locality – data is a key part in helping to deliver this comprehensive picture. This is vital as a one-size-fits-all approach is not appropriate for all nations and regions, and digital policy must reflect local experiences and priorities. For example, the needs and solutions to help drive digital adoption between London and North Yorkshire differ significantly.

It is essential for Government to simultaneously acknowledge nuances and differences by geography, while retaining an overall national benchmark which will enable innovation, generate buy-in, demonstrate success stories, and highlight where projects have been unsuccessful. Understanding the full digital landscape is also a way of making the case for investing in regional digital economies as part of the Levelling Up Agenda.

techUK's Local Digital Capital Index is a tool that helps to build this picture, but we have identified that a lack of location-specific data on the strengths or otherwise of regional data ecosystems, hinders us from truly understanding the UK's digital maturity. We have previously called on Mission 1 of the NDS to improve data on data ecosystems and we stand ready to support the NDS Forum's pilot project to Map the Data Ecosystem, which has been a welcomed start.

However, for this exercise to be accurate, useable, and dynamic, it requires appropriate resources to access the right digital tools which can provide a more thorough and robust methodology. This will ensure findings can more helpfully inform policy interventions under Mission 1 of the NDS and support the work of organisations such as techUK in understanding data ecosystems across nations and regions.

The Government's Levelling Up White Paper has also rightly committed to "working with local leaders, citizens and sector experts to establish a body to focus on local data, transparency, and outcomes. Strengthening local data will be the cornerstone for this body, to empower citizens with a greater knowledge of their place and support local authorities to learn from one another and be more user focused."

While this has been welcomed by techUK and members, Government must set a minimum benchmark for the gathering of local government data rather than a ceiling to ensure that no region is left behind. There must also be room for developing data capture, transparency and tracking standards that is fit-for-purpose in each locality.

7. Narrow the data skills gap and combat skills shortages by investing in training, upskilling, and reskilling of the UK's workforce.

Data access and good data quality is only part of the puzzle. Many of the opportunities to use data to improve efficiency and productivity are being missed because approximately 55% of data is 'dark' meaning it's unknown and untapped.[6] Part of this is due to businesses, organisations, and Government lacking the technical skills to manage data, as well as the skills to think creatively about data.

The shortage of individuals able to work in data is impeding the quantity and quality of data driven activities and will remain a key barrier to the UK seizing the opportunity to lead the world in data driven economic growth. In 2019, research found that of the 9.2 million job adverts posted on employer websites over a five-and-a-half-year period, just over one in ten (996,000) required data expertise.[7] As we emerge from the pandemic this figure is significantly higher as we have seen unprecedented levels of digital acceleration and adoption. Recent research has found the number of job roles that require hard data skills range from 215,000–234,000.[8]

Data skills are no longer limited to digital and tech roles but are nearly universal requirements across all sectors and skill levels today. To address this skills shortage, Government must invest in the training, upskilling, and reskilling of the workforce. Both industry and Government need to emphasise the development of lifelong learning to prepare the workforce for the technological changes to come. The UK's digital and data skills shortage must be tackled at all levels of education including secondary, higher, further, adult, vocational (such as apprenticeships and T-levels), and upskilling within industry.

Employer investment in training of existing employees has faced a substantial decline, particularly amongst the SME community. Studies show that SMEs face several obstacles to investing in their workforce, including a lack of information about what training is available, access to economies of scale (smaller employers typically pay three times more per member of staff than larger firms for formal training) and accessing training that is flexible and specific to their needs.[9]

One way the Government can address digital skills shortages to boost growth is by expanding the coverage of the Help to Grow: Digital Scheme, supporting SMEs to invest in digital reskilling through a Digital Skills Tax Credit and continuing to reform the Apprenticeship Levy.

6. What is dark data? (Splunk).
7. Growing demand for data science leaves Britain vulnerable to skills shortages (Royal Society).
8. Quantifying the UK Data Skill Gap (Department for Digital, Culture, Media & Sport).
9. PRAXIS Edition 5 WEB PDF_1.pdf (ioe.ac.uk)

Conclusion

As effective data use becomes more fundamental to growing the UK's digital economy, it is crucial for there to be availability of good data sets, and for this to be able to flow freely across sectors. This means Government must provide the right environment – for both private and public sector bodies – to feel empowered and equipped to unlock the full value of data and innovate through sharing and combining multiple data sets.

The current data ecosystem as is, may not achieve these desired benefits without effective policy interventions that can support businesses and public bodies of all sizes. In this paper, we have set out policy recommendations which we believe will help focus the implementation of the relevant Missions of the NDS in delivering these ambitions and help the UK get back on the right track as a global leader in open data.

If successful, the UK will have a real opportunity to capture the full value of data, and ensure its benefits are shared across the entire economy and society. techUK and members remain committed and ready to support the Government with these efforts.

techUK

FOR WHAT COMES NEXT

About techUK

techUK is a membership organisation that brings together people, companies and organisations to realise the positive outcomes of what digital technology can achieve. We collaborate across business, Government and stakeholders to fulfil the potential of technology to deliver a stronger society and more sustainable future. By providing expertise and insight, we support our members, partners and stakeholders as they prepare the UK for what comes next in a constantly changing world.

linkedin.com/company/techuk

@techUK

youtube.com/user/techUKViews

info@techuk.org