

LEIDOS DATA SURVEY

Uncovering the power of data

The 2011 census in England, Wales and Northern Ireland marked the first online response system available to the public. There were around 4m respondents to the census in total.

4m

The majority of responses, however, were still received via the 32-page paper-based questionnaire. In order to support this, we printed the equivalent of over 500m sheets of A4 paper.

500m

During peak return days for the census there were 43 articulated trucks in operation, delivering questionnaires to our processing centre every day.

43

Each paper questionnaire form had to be scanned and keyed individually. We processed over 5,500 forms every hour as part of a 24 x 5 operation. This is equivalent to processing 27 sheets of paper per second.

5.5k

Our software read around 75 per cent of written responses with the balance being manually keyed. We keyed roughly 1,425,000 strokes per day, with an accuracy greater than 99 per cent.

99%

After scanning and keying, some responses had to be coded. We were able to automatically code over 70 per cent of responses with manual coding being performed at a rate of 13 fields per second in three different languages.

70%

In order to perform these activities our processing centre was 180,000 sq ft under one roof with over 400 people employed for each shift.

180k

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Heading towards an everyday revolution

Matt Warman MP, explains how new technologies can improve the cost-effectiveness, efficiency and transparency of the state



It wasn't that long ago that people went to work to use the latest technology, and came home to little more than a landline telephone and bulky television. Today, the reverse is the reality. At home we set timers via Alexa and use apps to control everyday devices, while the fate of some patients in the National Health Service still rests on the fax machine.

The potential benefits of technology to the state, therefore, are disproportionately great, but they are also disproportionately hard to deliver and their absence contributes to a worsening level of faith in politicians to act in the public interest.

Parts of the NHS, for instance, continue to tie themselves in knots over whether a GP surgery has the right to share data with a hospital without the explicit, new consent of the patient, while patients themselves routinely show up to appointments bemused that one doctor can't easily see what another has prescribed. The technological problem of making ageing systems talk to each other is compounded by a regulatory system that struggles to work out how to ask people for something they think they've already given and would almost certainly not think to refuse.

There are, therefore, hard technology problems and huge data-driven opportunities that should be delivered very soon. In my recent paper for the Centre for Policy Studies, entitled *Who Governs Britain?*, I argue both for a new outlook from government, and for measures that would see different parts

of local government no longer reinventing the wheel.

Those measures include making data open by default, building on the progress made, among others, by Transport for London (TfL) and in London. That would allow private and public app developers to make the most of what is rightly often characterised as the new oil. With appropriate consent, the value of that data has the potential to reveal new possibilities, but also to streamline existing processes.

Perhaps more significantly, I also propose that central government host what is effectively a national app store, where local government can see what has been done before and also build on it for their own purposes. The aim is to stop the endless reinvention of the wheel, and possibly also to seek to commercialise apps and services in the same way that Oyster is now licensed around the world at a profit for TfL.

Coupled with making interoperability between new systems and platforms a standard, the effect of these basic changes to plumbing could be a step change in the kind of technology we see used by citizens in their interactions with the state and in the efficiency of the state itself. This is as much about the back of the office as it is about the front desk.

My hope, as well, is that technology can make the cost of the state more transparent too: there is no reason why the app that people use to report that their bin has not been collected could not also report that they paid just pennies for that service this week. There is also no reason why the basis for that app should not be identical across the country, with the local council crest reminding the citizen of their area.

It's in that spirit that technology can both help the taxpayer and the exchequer to understand the challenges and opportunities that abound – and thereby deliver the state every citizen now knows is vital.

Leidos and the *New Statesman* gathered experts in Westminster to discuss the relationship between the government and the technology industry

Can data help to deliver better services?



Whether privacy is a fair price to pay for progress is one of the technology industry's most complicated political debates. The reality of an increase in internet use and widespread digitalisation across sectors is that more people are spending more of their time online, and as such so is a lot of their personal information.

From everyday practices such as banking and shopping, to traditionally state-managed activities such as healthcare and security, both the United Kingdom's private sector and its government are facing multiple challenges in delivering responsible data stewardship; as well as in maintaining a level of trust with consumers and citizens alike. And this high-stakes arena of policymaking formed the basis of a round table

discussion hosted in Westminster by Leidos and the *New Statesman*.

Matt Warman, the Member of Parliament for Boston and Skegness and former technology editor at the *Daily Telegraph*, joked in his opening address at Portcullis House that the "only people trusted less than journalists are estate agents and politicians". But that mistrust, he quickly noted more seriously, needed to be resolved because in doing so the government "may stand more of a chance of using the wealth of data that technology has made available, for things that are actually in the interests of the taxpayer". Helen Margetts, professor of society and the internet at the Oxford Internet Institute, added: "The government seems to have a good record on storing people's data, but a terrible record for using it for anything useful."

Warman suggested that alongside the digital advancement of large organisations, whether governmental or otherwise, scepticism from users had grown as they were wary of any one agent becoming "too powerful". He said: "I think even if you factor in the relatively long honeymoon period that Facebook and Google enjoyed, a lot of the big organisations are trusted less than they were before."

Warman continued: "It's the government's job, I think, to bring together a sort of broad coalition between different data handlers so there is not just one custodian of everyone's data. The world of data is so diverse and dispersed now that if we wanted something that would benefit people, then we need to get that from working together, collaboratively." But that collaboration,



Warman stressed, could only be achieved “through a proper regulatory environment”, with which the UK “should aim to lead the conversation”. He explained: “It all comes back to trust and we can’t pretend that we are going to ever live in the world where there is never going to be a data breach or a bad actor, but it’s about making sure those things happen as rarely as possible.”

Trust and collaboration, Leidos’ vice-

The UK should take the lead on regulation

president for business development and strategy Tim Crofts said, represent the company’s key values. “We help organisations to build trust through collaboration. Integrity in a client’s data is critical to us and we design systems with security from the ground up. Without that, our reputation doesn’t really exist.”

Leidos’ chief technology officer Simon Daykin, meanwhile, offered: “We believe that the use of data can help to achieve better outcomes for public services. A lot of what restricts us [and the wider technology sector] is this issue of data stewardship. People are often very nervous about where their data is going. The government has a pretty good track record, compared to some of the social networks for example, but the narrative still isn’t great. We need to

find a way of changing that narrative so that people can understand the benefits of their data being processed. There is an opportunity, for example, to collate advanced passenger information at the border, with data from the Home Office and customs information from HMRC. Live information on transport, in terms of airline delays or highway closures, could all contribute to a better experience for people.”

Jeremy Lilley, policy manager for data protection and the digital single market at Tech UK, agreed that there was too much “disconnect” between the public and the government. He called for a greater “clarity” and “less jargon” in explaining why certain information was being asked of someone. He said: “Both government and industry have got to work harder at selling the benefits of data use. It’s the way a lot of these things are communicated. People can’t have trust if they are not told what happens. It’s partly down to wanting to be control and partly down to simply wanting to understand. For example, what is going to happen if they do share their health data, in detail, with the NHS? If the government is going to use their data to deliver better public services, with cost-efficiencies, then it needs to advocate that. GDPR [the general data protection regulation invoked by the European Union] will hopefully be an opportunity to cultivate more of a culture of trust in data use.”

A failure to improve trust with citizens and consumers, Lilley also pointed out, had the potential to “cause reputational damage”. And he said that this should represent a “huge incentive to take data protection seriously”. He warned: “That brand awareness, so to speak, is a good thing. People will stop using products and services if they don’t think that their data is being used or stored properly.”

Tim Cowen, a contributor to the ResPublica think tank, said that



trust between users and some digital organisations had been eroded by a lack of transparency. In multiple instances, he claimed, users had been asked to “submit information for one purpose, but it was then used for something else”. In light of recent events involving the use, misuse and “harvesting of data”, as Cowen put it, governments must be wary, he said, of working with “some suppliers, who may have a conflict of interests.” He noted: “A lot of ad-funded players benefit from harvesting individual bits of data and the value of big data is now very high for organisations. It can be used as a way of targeting consumers with bespoke advertising. I think there’s a distinction between different sorts of suppliers which government needs to be very aware of.”

While he “appreciated” the government’s “case for storing and using people’s data”, the Institute for Government’s Aron Cheung said that the mistake in strategising for data use had been in not engaging the public more personally. “My understanding,” Cheung said, “is that people feel squeezed and really they just want to be in control of what happens with their information.”

He continued: “In the UK, we have a system whereby we control all of the national health data records, but in Sweden people have their own cards. That card is personal and it’s updated as and when you use the healthcare system. It belongs to an individual and they can choose who they share it with. That maybe sounds idealistic but if people were given more of a choice then I think they would trust the people who were supplying them with a service. The government doesn’t always think about it in terms of helping people and too often it’s treated like an industrial supply chain question.”

The government, according to lead technologist for personal data and digital privacy and trust at Digital Catapult Michele Nati, has to work harder to reduce the “Big Brother feeling”. Targeted advertising is more tolerable, he suggested, than a culture of “constant surveillance”. Nati said: “The perceived risk posed by the private sector is less. Spam email is less [troubling]. But the government needs to be honest about how and why they collect data to lower that perception of risk.”

Ultimately, the round table

“Services must aim to put people first”

concluded, the solution to improving the government’s relationship with technology was three-fold. First, a greater transparency in language and practice needs to be implemented. People must understand why their data is being used, where it is going and the answers to both of those queries must remain the same later down the line. Secondly, as both Warman and Lilley highlighted, a reliable regulatory framework for all technology operators must be in place. The purpose of regulation, both commented, was not to stifle companies but rather to help them grow safely and sustainably. And thirdly, as Cheung argued, if the government wants people’s trust in its services, then its “services must put people’s needs first”.

Power to the people: a plan for sharing data

Affording citizens more control over their personal information will improve confidence in public services, writes **Tim Crofts, vice-president of business development and strategy at Leidos**



As consumers we are creating tremendous volumes of data all of the time. We often don't even realise the nature of the data we are creating, but through the use of sophisticated algorithms data scientists have the ability to build a rich picture of people's lives and to predict their likely behaviour. And this is data that can potentially transform our public services.

Creating a rich data environment by fusing multiple internal and external sources (cross agencies and social platforms) into a secure environment can help drive public sector benefits through digital transformation. We are well versed in supporting this. Specifically, we have extensive experience fusing structured data from heritage systems with the most modern IP-enabled sensors and other internet-born data to provide a rich picture for critical decision making. Our clients are demanding this more and more in real time, supporting informed decision making through real-time and predictive analytics.

For example, in many industries secure sharing of data between stakeholders is considered fundamental to operational performance – whether it's credit and insurance data between financial services, passenger data between transport operators, or live situational data for media and sports organisations.

In order to enable digital transformation we think that there is greater transparency and choice required on the use of your personal data, regardless of its source. This transparency is critical in building citizen trust in the use of what can be

very personal data. For example, some people may not wish to share their personal health record without express permission across the NHS, or the fact that an individual may well be claiming for certain universal or tax credit to another government agency. Therefore the government must give the citizen the choice to share their personal data and specifically outline the benefits for doing so. Putting the citizen at the centre of what their data is used for and the sort of experience they wish to have with the government is what will make this work and build that trust. Without it, new digitally enabled services will be more difficult to provide.

Standards need to be developed and actively explored with UK citizens to enable an informed, proportional and engaged debate on sharing and leveraging new sources of social data. We need to break down the data silos in government as a start and at the same time win the public's trust. To do this we need to demonstrate the government's strong track record of data stewardship alongside implementing understandable and empowered methodologies to allow citizens to make more informed decisions on data management of their sensitive or personal information.

The benefits of digital transformation come from reimagining the user experience and business processes in an information-rich and dynamically changing world. By fusing both the data government collects for delivering services and citizen data from technology platforms, a new set of public sector digital services will make a real difference to user experience and improve efficiencies of government. Building trust, breaking down silos and securing the permission to leverage citizen data is key.

We need to rapidly change the perception of government's stewardship of data, and win the trust of people so they can make positive, informed decisions on how data is shared. The technology is here – it is time to unlock this capability for the British public.



Leidos is ranked #6 on Fortune's
World's Most Admired Companies
Information Technology Services category

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