Information Economy Strategy

Call for views and evidence

Contents

UK government information economy strategy – Consultation Response

Summary

This submission focuses solely on Question 1 of the consultation:

"1 Are the following five sectors the most important – smart cities; cloud computing; internet of things; big data; and e-commerce – and do they present the biggest opportunities for growth in the sector? Are there other growth opportunities in the information economy that Government and industry should consider?"

Our answer is '**Yes, there are other opportunities** that Government and industry should consider'. They are:

- **Information Logistics Platforms,** which help people and organisations get exactly the right information to and from the right person in the right format at the right time, in a way which they can trust.

- **Personal data management services,** which help people and organisations gather, store, analyse, share and use personal data in ways which add value while ensuring privacy and data protection.

Information Logistics Platforms

Information Logistics Platforms (ILPs) are technologies, services and infrastructure which help people and organisations get exactly the right information to and from the right person in the right format at the right time, in a way which they can trust. In doing so, they accelerate and enable many of the benefits attributed to the five priority areas already identified. ILPs can be seen as the other side of the coin to Big Data. While Big Data practitioners focus on collecting and accessing as much data as they can from as many sources as theycan over extended periods of time in order to identify trends and patterns, ILPs offer the technologies and services which provide people and organisations with the ability to select just a few bits of data from vast data sets – the few, right, bits of need they need to get something done; they help strip out the 99.99% of data that's 'out there' to access and use the 0.01% of data 'I really need to get this job done, now'.

While Big Data is about discovery, insight and intelligence, Information Logistics Platforms turbocharge the *application* of data to real life activities and services. They do this by addressing key issues such as location of data, data quality assurance, permissions management, terms and conditions for data sharing, payments and trust assurance.

The UK is already leading the way in the ILP market via services like BT Trace. With the right strategy the UK could become a world leader in a new piece of global information economy infrastructure. [1]

Personal Data Management Services

The current draft strategy does not mention the term or the concept of personal data. It would be an astonishing oversight if the UK Government's Information Economy Strategy did not include a clear and positive set of proposals for maximizing the potential uses and value of personal data to the nation's citizens and customers, and to the organisations that provide services to these citizens and customers. The Information Economy Strategy needs to connect the dots with already-existing Government initiatives in the areas of identity assurance and midata.

Maximising the potential uses and value of personal data has two elements:

- Finding new ways to strip out cost and add value to existing uses of personal data. This includes technologies, services and business models relating to identity assurance and management, data security, privacy protection, service provision and marketing.

- Encouraging the growth of entirely new markets (referred to here as Personal Information Management Services or PIMS) that enable individuals to gather, store, manage and use their own data for their own purposes. This sector is particularly important because it is one where the UK is uniquely positioned to take an international lead and become a global market leader.

Given the scale of the market for personal data, estimated to be worth €1 trillion in the EU by 2020, [2] it is vital that the UK's Information Economy Strategy makes the most of these opportunities.

It is also vital that the Strategy recognizes that there are many ways in which the Strategy's current focus areas (smart cities; cloud computing; internet of things; big data; and e-commerce) are actually 'personal data in disguise'. Any strategy which fails to take account of the unique and special considerations raised by the collection and use of personal data will necessarily be flawed.

Submission

1. Information Logistics Platforms

Information Logistics Platforms (ILPs) are technologies, services and infrastructure that enable people and organisations to get exactly the right information to and from each other in the right format at the right time.

ILPs can be seen as the other side of the coin to Big Data. While Big Data wants to collect and access as much data as it can from as many sources as it can over extended periods of time in order to identify trends and patterns, ILPs offer the technologies and services which provide people and organisations with the ability to select just a few bits of data from vast data sets – the few bits of need they need to get something done; they help strip out the 99.99% of data that's 'out there' to access and use the 0.01% of data 'I really need to get this done, now'.

ILPs address all the problems that make managing and using data a nightmare when it should be a blessing, questions like:

- Where is the information I need to solve my problem?
- Can I be sure this data is up-to-date and accurate?
- Do I know where it has come from?
- Do I have the right to use it? If so, under what terms and conditionsltip?
- Do I have to pay to use it? If so, how much?
- Can I trust the person I'm sharing my data with?

ILPs do this by creating data inventories of data held in multiple different places by multiple different parties, by making them discoverable, linking this data to associated terms, conditions, permissions and prices (allowing for frictionless flow of data instead of complex negotiations) plus the governance processes to set, monitor and enforce a trust framework for the data sharing.

By enabling data sharing in this way, ILPs represent an essential piece of infrastructure underpinning the successful operation of smart cities, cloud computing; internet of things; big data; and e-commerce. But they are not the same as these focus areas. They are a technical and business model challenge and opportunity in their own right.

Business interest in ILPs is already intensifying. SWIFT, the international payments network has already developed a prototype platform called the Digital Asset Grid. [3] BT has launched BT Trace, which focus on data sharing in logistics.

With the right strategy is well-placed to become a world leader in this fast-emerging piece of global information economy infrastructure. **We therefore strongly recommend that the new Information Strategy includes the development of Information Logistics Platforms as a key focus area.**

2. Personal Data Management Services

2.1. Personal data: the elephant in the room

Personal data is already central to the workings of our economy. According to a recent Boston Consulting Group report the value created through digital identity (defined as 'the sum of all digitally available information about an individual') will be €330 billion to organisations in Europe by 2020. An additional €670 worth of benefits will flow to individual citizens and consumers, creating total value worth €1 trillion. The combined total identity value could reach 8% of the EU-27 GDP, says BCG. [4]

This is not only a significant economic contribution in its own right, it's a *growing* contribution. While traditional industries shrank by 3.6% between 2008 and 2011 in Europe, data-intensive sector where the use of digital identity is key, grew between 15% (e-commerce) and 100% (Web 2.0 communities). BCG estimates the growth rate of digital identity driven services to be 22% per annum to 2020.

It would be an astonishing oversight if the UK Government's Information Strategy failed to recognise the pivotal role personal data already plays in our economy. Personal data plays:

- An essential operational role in key industries including financial services (with its regulatory requirement to 'know your customer'), health services, taxation and benefits, and the provision of other public services from the DVLA and Passport Office through to local authority social services and education services. None of these services can operate as they do without the ability to identify individuals and cater to individuals' needs: by using personal data.

- A critical role in all consumer-facing organisations' customer relationship management, customer service and database marketing activities, all of which depend on the ability to recognize and treat individuals as individuals.

- A critical role in the growth and value of all e-commerce, including services like Amazon, Ebay and all online retailing, which require customers to identify themselves and which build and use profiles of interactions and transactions against these identities.

- A critical role in the growth and value of Web 2.0 online services such as

Facebook, Google, and Linked-in plus a myriad of smaller 'wannabe' competitors.

2.2. Personal data: A uniting factor

It is crucial that the Information Economy Strategy recognizes that an important element of each of its current priority areas (of smart cities, cloud computing, internet of things, big data, and e-commerce) are just 'personal data in disguise'. In reverse order:

- A very high proportion of all e-commerce depends on, and uses, personal data.
- A very high proportion of big data sets relate to personal data. For example, online behaviours, location data, other mobile phone generated data, and health data are all collections of personal data.
- A high proportion of 'internet of things' data – not all, but a high proportion – is data about people: about a person's use of a device.
- A significant proportion of the potential growth of cloud computing is for personal purposes by identified or identifiable individuals.
- Likewise, a significant proportion – not all, but a significant proportion – of smart city data is data about people: their movements, activities and needs.

In so far as they deal with personal data, each one of these projects faces the same, common issues and challenges. These include:

- identity assurance and management
- data security
- issues raised by aggregation, anonymisation, pseudonymisation, and the degrees to which data is, or may become, personally identifiable as it runs through a process
- policies and processes for privacy and data protection including emerging privacy enhancing technologies (PETs)
- legal compliance, including the monitoring and auditing of compliance
- trust, trust frameworks and all the communication, reputation and other issues revolving around the trusted collection and use of personal data

There is currently intense controversy over how companies gather, share and monetize the personal data they collect. These issues and challenges are currently widely regarded as 'problems' – humps in the road, hindering the efficient, effective use of data. From the point of view of an effective Information Economy Strategy however, **problems like these are products and services in the making**. They are a spur and inspiration to the development of new technologies, services, business models – indeed, entire industries – devoted to finding new trust-building ways to

maximise utility while protecting privacy.

The UK Government's ID Assurance programme [5] is a good example of innovative approaches to the use of personal data (in this case identity data) creating the potential for a wide variety of innovative new services.

The potential economic benefits include:

- the growth of specialist software and IT businesses, creating new jobs and tax revenues
- the positive effects solutions to these problems will have on the operation of all other businesses, both private and public sector
- improving the attractiveness of the UK as a location to do business in.

Given that the issues outlined above are common to *all* the current priority areas *and* to existing industry needs (e.g. financial services, health, public services, customer relationship management, etc) it is critical that the UK Government's Information Economy Strategy has a separate, focused work stream designed to maximize UK businesses' and services' ability to gather and use personal data in privacy protecting and value adding ways.

We therefore **strongly recommend that new trust-based approaches to managing and sharing personal data – approaches that include individuals as active participants in the process –** be included as a stream in its own right.

2.3. Personal Information Management Services: an innovation hot spot

The opportunities identified in Section 2 above revolve mainly around traditional 'organisation-centric' uses of personal data: that is, organisations gathering and using information about citizens/customers. Currently, this is where most personal data related economic activity is focused.

However, looking forward over the next few decades a second, parallel growth opportunity is emerging. The other side of the coin to <u>organisations</u> using personal data is <u>individuals</u> using their own (personal) data for their own purposes, including managing their relationships with organisations.

Precisely because this second, 'person-centric' half of the coin is still embryonic, it also represents potentially **the biggest growth opportunity.** These Personal Information Management Services (PIMS)[6] are innovating and adding value in a number of ways including:

- new services such as personal data stores (or 'vaults' or 'lockers) that help individuals gather, store, manage and share their own data under their

control. [7] One current 'hot spot' of innovation here is the rise of personal data stores, a new market which the World Economic Forum recognizes as having gained 'significant momentum' over the last twelve months. [8]

- new services that connect information about individuals (their circumstances, needs, preferences, goals and so on) to information about markets and marketplaces to help them make better decisions as citizens and consumers. These 'choice engine' or decision support services are not only an emerging service category in their own right, they also have significant implications for the workings of economy as a whole by driving competition over quality, price and service to new levels. The opportunity for this new service sector was recently highlighted by *Nudge* author Richard Thaler in the Harvard Business Review. [9]

- new services that help individuals organise, manage, administer and coordinate their lives – 'life management' services. The potential growth and scale of these services across both public and private sectors is easily visualised by thinking of the different life 'departments' every individual and household has to manage (e.g. 'my money', 'my home', 'my health', 'my career', 'my leisure and hobby interests etc) and considering all the information and information-driven processes needed for individuals to manage and get their most of their activities in these areas. To this we need to ad the full range of life episodes individuals go through (e.g. 'change school', 'go to college' 'move home', 'get married', 'have baby', 'retire' etc) all of which also require the input, sharing and use of large amounts of personal data. [10]

  Demand for such services is already booming via 'the app economy' with 30% of the time individuals spend using their phone devoted to using personal information services which help them plan activities, events and outings, manage their money, health and productivity, shop, and administer their affairs. [11]

The UK is perfectly placed to lead the world in developing these new markets and services. That's because it has:

- a regulatory environment which builds trust around privacy and data protection compared to, for example, the more laissez-faire approach taken by the US

- high consumer take up of broadband internet and smart phones, and a a vibrant digital technology sector

- Government policies which are positively promoting innovative services designed to empower consumers with more control over their data. z

The UK Government's midata programme, focusing on encouraging companies to release data they hold on customers back to the customer in machine readable format, so they can use this data for their own purposes. Legislation giving ministers powers to extend this right to customers in regulated industries (credit cards, current accounts, mobile phones and energy) should receive Royal Assent by Easter. [12]

Meanwhile, the Government's Identity Assurance Programme is creating new ways for individuals to assert their identity when dealing with organizations, making it easier to share data with them.

The UK is not along in recognizing these opportunities. The US is now heavily promoting similar initiatives under the banners of the Green Button (releasing energy data back to individuals) [13], the Blue Button (release health data back to individuals) [14] and the MyData initiative, which is now a US Government innovation priority via the creation of a Presidential Innovation Fellowship for MyData initiatives. [15]

The EU is also embracing these principles with proposed revisions to European Data Protection regulations which establish a new right for EU citizens:

> "to obtain from the controller a copy of the data undergoing processing in an electronic and structured format which is commonly used and allows for further use by the data subject".

The UK is currently ahead of the game, in this rapidly growing international movement. With its new Information Economy strategy has the opportunity to captailise on this position. We therefore **strongly recommend that information services for individuals (PIMS) be included specifically as one of the key sectors that are driving growth opportunities in the information economy.**

About Ctrl-Shift

Ctrl-Shift is a specialist research/consultancy business focused on understanding and identifying the opportunities and implications of personal information empowerment. Ctrl-Shift have acted as strategic advisors to BIS on its 'midata' consumer empowerment strategy since its inception. [16]

Notes and references

[1] BT Trace
[2] The Value of our Digital Identity, Boston Consulting Group
[3] SWIFT Digital Asset Grid
[4] The Value of our Digital Identity, Boston Consulting Group
[5] Government Identity Assurance Programme
[6] Personal Information Management Services, Ctrl-Shift, 2011
[7] Personal Data Stores, Ctrl-Shift, 2012
[8] World Economic Forum, Unlocking the Value of Personal Data.
[9] Smarter Information, Smarter Customers, Richard Thaler and Will Tucker, Harvard Business Review, January-February 2013. The article summary reads:

> "Consumers and citizens are constantly confronted with information that is highly important but hard to navigate or understand. A potent mix of modern technology and new government policy is about to change this. Increasingly, government owned data and private company disclosures will be made available in machine readable formats, spurring the growth of new choice engines that interpret this data. These choice engines will empower consumers in new ways, giving them the ability to comparison shop more easily and make better choices. This will create big opportunities for firms that provide high-value products at reasonable prices – even as it makes life tougher for those that profit from fine print".

[10] Personal Information Management Services. Ctrl-Shift, 2011
[11] How people really use mobile', Harvard Business Review, Jan-Feb 2013 p 30
[12] UK Government midata programme
Announcing the next steps of the midata programme in August 2012, UK consumer minister Norman Lamb said:

> "It's clear to me that giving consumers the right to access their own transaction data promises huge opportunities for both consumers themselves and UK businesses. "

> "midata will allow consumers greater insight into their everyday consumption and lifestyle habits by using applications and intermediaries to analyse their actual behaviours and thereby empower them to make better spending choices and secure the best deals. This will boost competition between companies in terms of value and service, and stimulate innovation in new data management tools and systems."

> "We want the UK to be at the forefront of the data analytics and information services market that is rapidly growing with huge international potential. However, it's crucial that we engage with business and consumers to ensure that we do this in the right way."

[13] Green Button initiative
[14] Blue Button initiative
[15] The US MyData Initiative. "The MyData team will work with public sector and private sector organizations to continue to expand the ability for Americans to securely and privately access their own data from wherever it might be, and encourage the development of private-sector tools and services that help people utilize their own data for their own benefit."
[16] Ctrl-Shift