ZAIZI™

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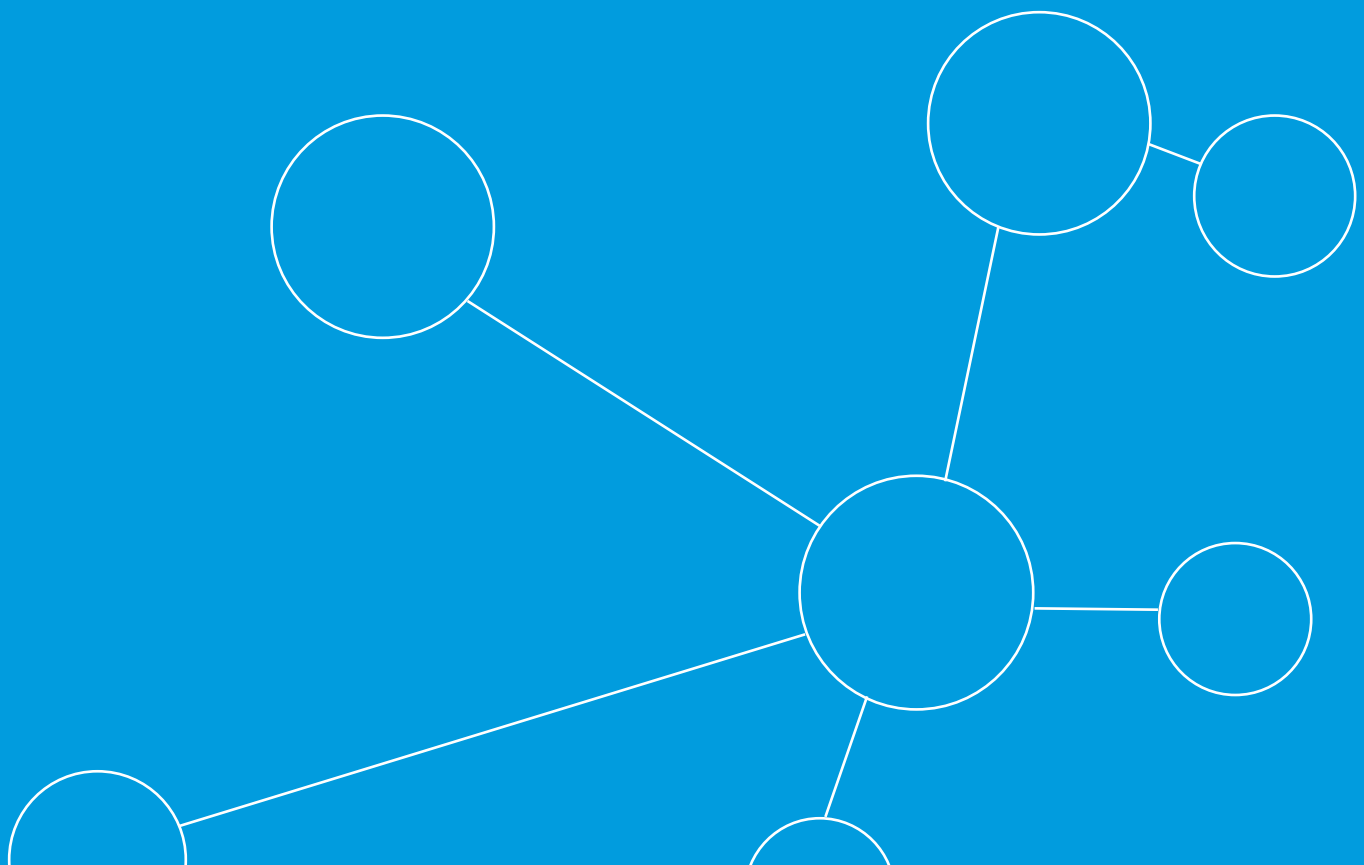


Chapter one:

Vision

The government might not have been expecting the EU Referendum result, but a vote to leave brings with it opportunities to create the most forward-thinking, data-driven government in the world. As the UK seeks to reshape and redefine its economic arrangements, build new trading agreements and demonstrate to the world that it remains open for business, it needs data more than it ever has in the past.

Two key reasons are firstly, the government still has a cost-saving agenda. It needs to deliver on transformation projects if it is to realise efficiencies at scale. Secondly, data is key to helping government to reshape and redefine its services in the wake of Brexit. The temptation with digital projects is that you end up reinventing existing services, rather than redesigning them. Ultimately, this stunts their long-term impact.

But now everything from border control through to the distribution of farming subsidies must be looked at through fresh eyes. This offers the ability to eliminate the data silos that haunt the quest for a truly joined-up, streamlined digital government based on a common data platform built on open-standards technology.

The UK government can become a world-leader in open data, APIs and data ecosystems that fuel wider economic benefit. It's data protection laws can be built to be some of the most robust, yet competitive in the world. If we reframe how we think about services and the role of government, the list of possibilities is both long and exciting.

Yet, to deliver on this data must take a front and centre role. Government must be smart, agile and innovative. New challenges bring with them new opportunities. The mandate for government is how these opportunities are seized.

Chapter two:

Types of data

In order to affect real change, government bodies need to create demonstrably superior digital services that citizens or customers actually want to use and are willing to engage with.

- Meeting the demands of both digitally savvy and technologically challenged customers and citizens with easy-to-use services.
- Reducing the costs and risks of developing and launching new services.
- Developing an efficient, streamlined IT estate that continues to meet the demands of customers and service providers as they change over time.

Whilst progress is being made in these areas, behind the shiny and impressive 'digital' front window, the manual processes remain the same, with the dream of joined up services remaining largely unfulfilled. To a great extent this is because despite its ambitions, government still runs on legacy technology.

Many government departments have developed work arounds, but it is becoming increasingly apparent that the cracks can no longer be papered over. Particularly as the amount of information available to and produced by a single government department or business unit is growing exponentially from multiple sources:

- **Digitising paper records.** Traditional paper-based records are being transformed into electronic files. For example, the DVLA has replaced in-vehicle road-tax discs with electronic records as part of its efforts to reduce paper-based transactions relating to vehicle records. Efforts by the National Archives to digitize the statute book can be seen in the same light.
- **New sources of data.** New technologies and new ways of processing information are adding to the amount of data being generated. For example, the Ministry of Justice (MoJ) has proposed a root and branch reform of the legal system – from the way police gather digital evidence, to the instigation of virtual courtroom sessions for certain crimes. It will produce a level of data the MoJ has not had to deal with before.

- **Changing types of data.** The vast majority of new data being generated is predicted to be unstructured (in contrast to the traditional highly structured, machine-readable formats). This includes information derived from blog posts, social media feeds, audio and video [1] - such as the petabytes of audio and video data gathered by body cameras worn by Metropolitan Police officers to be used as part of the evidence-gathering process.

- **Future growth.** Data volumes are set to expand still further as the Internet of Things (IoT) extends into more and more areas. By 2020, more than 50 billion smart devices will be connected to the IoT [2], continuously streaming data for real-time analysis. Currently, only 0.5% of the world's data is analysed, suggesting that the IoT's analytics capabilities alone will account for a huge increase in demand for storage and processing capacity.

Not only is there a lot more data available, but the way people access it is changing, placing new demands on the infrastructure. Mobile technologies have changed the expectations of service users who are able to access business and government services outside the traditional parameters of office hours and location. This trend will only proliferate as the UK government gears up for, and negotiates leaving the EU. Meeting this demand requires a 24/7 availability from service providers, and a consistent level of throughput, speed, security, and reliability.

The widespread use of mobile technologies has changed the format that services need to be delivered through an appropriately designed mobile front end. As the mobile experience decouples itself from the smartphone towards a collection of connected devices, this challenge is only set to become more complex. Not least because it also demands a streamlined back-office set up that can respond to both predictable and unpredictable peaks and troughs in demand.

Breaking down back-office silos is a critical factor in enabling user-focused mobile access. In the transition to flexible online services, facilitated by single sign-on, demand is growing for common technology platforms that can eliminate the repeated incidences of applications, security procedures, identity requirements, document management systems among others.

And at the heart of these platforms? Yup, you guessed it: Data.

[1] Seizing the data opportunity: A strategy for UK data capability.

[2] The Internet of Things: How the Next Evolution of the Internet Is Changing Everything

Chapter three:

Government as a data platform

‘Mind the gap’ is a mantra that many Londoners will be familiar with as they negotiate the capital’s tube system in order to get to work.

But it is also highly applicable to government as it seeks to bridge the gap between how services should work and how they still do work. Government departments might use data every day, but not always as effectively as it should be.

A true data-platform, as referenced in the previous chapter is about so much more than a shiny front end service. It’s about data integration, integrity, governance, provenance and security.

The reason why this is such a challenge for government is that up until now data has been generated for internal, not external purposes such as reports. This has created data silos across government with valuable data sitting in personal network drives, spreadsheets, databases, emails and so on, rather than supporting the delivery of online, streamlined and efficient services.

This results in many cases of ‘data double up’ across goverment departments. A really simple example is the list of countries that the UK recognises. Both the Foreign Office and HMRC curate and manage separate data registers therefore duplicating on efforts.

But being data-driven isn't just about delivering efficiencies, it's about making government smarter. For example, the data held on EU migration doesn't exist because it's not captured. What insight is known comes from a series of inconsistent questions posed at different points of entry that are then extrapolated out. With the right data, policies can be based and evidenced in data, significantly improving their real-world impact.

In recent years, to break down these data silos and use information much more productively, departments have adopted a technology-driven approach, with the aim of building multiple interfaces between software and systems in order to make data more accessible.

Whilst this has certainly eased the data burden, it has done little to solve fundamental challenges such as quality, formats, provide audit trails or to quickly search, find and apply the right data for the right task. Crucially, and perhaps most importantly, it does little to apply a consistent approach to data.
And that's the crux of the challenge at hand, because for the power and potential of a data-driven government to become a reality, there needs to be real ownership and leadership around data. Something a technology-driven approach is not capable of delivering.

To become a data-driven entity, government needs to embrace an all-encompassing data management strategy (DMS). The key difference between this and a technology strategy is that under a DMS, government can improve the reliability, credibility, quality and integration of data through:

- Leadership
- Ownership
- Value
- Availability and accessibility
- Trust
- Skills
- Innovation

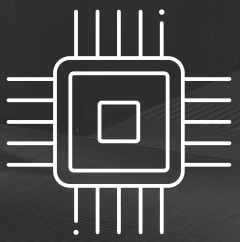
In other words, it makes data meaningful.

And let's be honest if it's not meaningful, then it's pretty useless when you're looking to set the bar and become the most forward thinking, data savvy government in the world.

Chapter four:

The technologies needed to deliver on the vision

In order to realise its end goal of evolving into a data platform, government ultimately needs to free itself from legacy thinking and technologies. Only then can it innovate in order to transform.



For too long, government has found itself 'locked-in' to technology stacks that don't give it the agility to respond to the changing needs of citizens or tap into the powerful potential of new technology platforms.

The fact is that responsive technology equals responsive services. Platforms such as Amazon Web Services, Google and Microsoft Azure are changing government perceptions about how quickly services can be deployed, scaled, supported and delivered. Shortening the "time to value" and enabling the services to evolve rapidly.

We believe that platforms such as these, coupled with open source and open standards based technologies are the future. They promote an ecosystem where the focus is on service, usability and agility; not locking you into one way of thinking.

In other words, they help to create a common platform. But most importantly they support the effective management of structured and unstructured data, empowering government to integrate it and make it meaningful.

But it also needs to be well integrated, accurate, secure and well governed.
Furthermore, the benefits can be felt wider than within government. By moving towards an open platform, government can be at the heart of an open data movement that greatly benefits commerce, giving an opportunity for new companies to open and flourish.

Take the Postal Address File as an example. Whilst the UK has relinquished this information to a private company, the US released high quality, machine readable postal address data. The Postal Address File in America spawned a niche industry, which was built purely using open information as its foundation. Companies have been able to expand their services to cater for this industry, or fill a newly created hole, both of which are undeniably positive.

The future of government is an exciting one. From high performing, digitised citizen services through to greater local community control over service delivery through devolution. Local authorities have already showcased what is possible with nonconformist and unconventional thinking. Now the time has come for other departments to follow suit.

Chapter five:

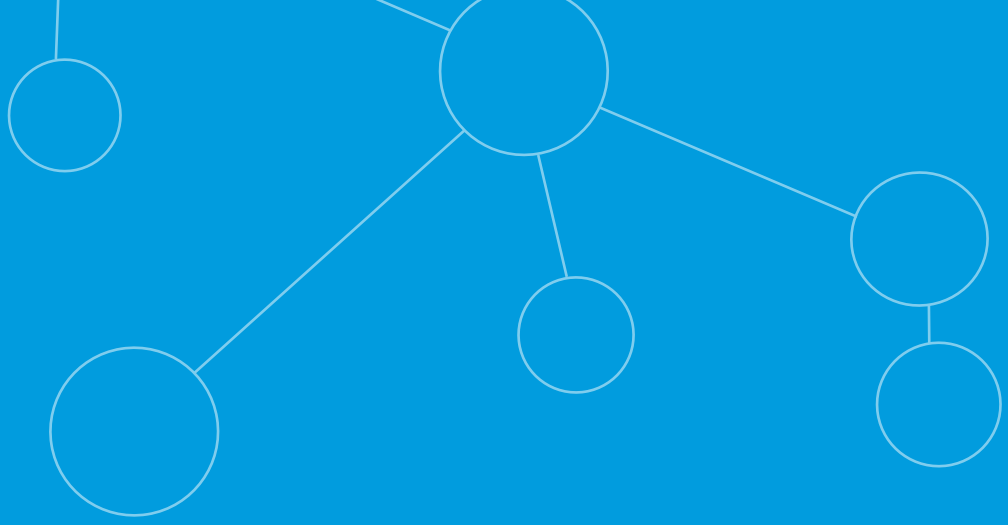
How Zaizi fits in

We've set out our vision for data-driven government and why we think it is the future.

So, the next question is where do we fit in and how can we help?

We've worked in government for a decade and clients include the Department for Business, Innovation and Skills, Department for Education, Ministry of Justice, Home Office and Bristol City Council.

We're very proud of the projects we have delivered on for a wide range of government departments. As a result, we believe we are the best partner to deliver when it comes to the new era of data-driven government.



Here's why:

- **Our knowledge and expertise.** At Zaizi we have heavily invested in the skills that our consultants and engineering teams possess. As IT skill shortages still top the technology agenda, finding the right people and continuous professional development to ensure that our staff meet the changing demands is essential to us in delivering successful projects for our clients.

- **Highest security levels.** We understand the nuances associated with breaking data free of legacy and then aggregating it. Data in a silo might be perfectly secure, but if integrated with a wider data set can become very sensitive. Aggregated data at scale also needs to be managed effectively and made readily available yet securely.

- We leverage cloud platforms to deliver data solutions capable of scaling to petabytes of content and thousands of users, cost effectively. Ensuring government organisations only pay for services utilised and not for redundant capability.

- Zaizi has adapted the use of agile development methodologies and DevOps practices to ensure responsive and continuous service improvement while adhering to the security and compliance requirements of government organisations.

- We understand open source software with cloud Platform-as-a-Service to deliver value quickly and efficiently, but with a depth of knowledge of open software to be able to adapt it to changing requirements and priorities.

- Zaizi demonstrates domain expertise in structured and unstructured data (documents, video and images), in the analysis and enrichment of multimedia data through the use of machine learning and natural language processing techniques, encouraging transparency and data re-use through publishing of open linked data.

- We provide data analytics on the various aspects on the use and type of data, enabling service improvement and monitoring service quality.

- We have a unique and intimate understanding of the challenges faced, from budgets to stakeholder engagement. This shapes how we engage, interact and work with our customers to deliver the best possible outcomes for them.

But perhaps most importantly, we're not bound by conventional thinking. We challenge preconceptions and bring a different perspective. Being independent allows us to recommend a strategy and approach that meets your needs – not those of our technology partners.

Find out more at www.zaizi.com.

We hope to be speaking with you soon!