THE FOOD STANDARDS AGENCY DATA STRATEGY

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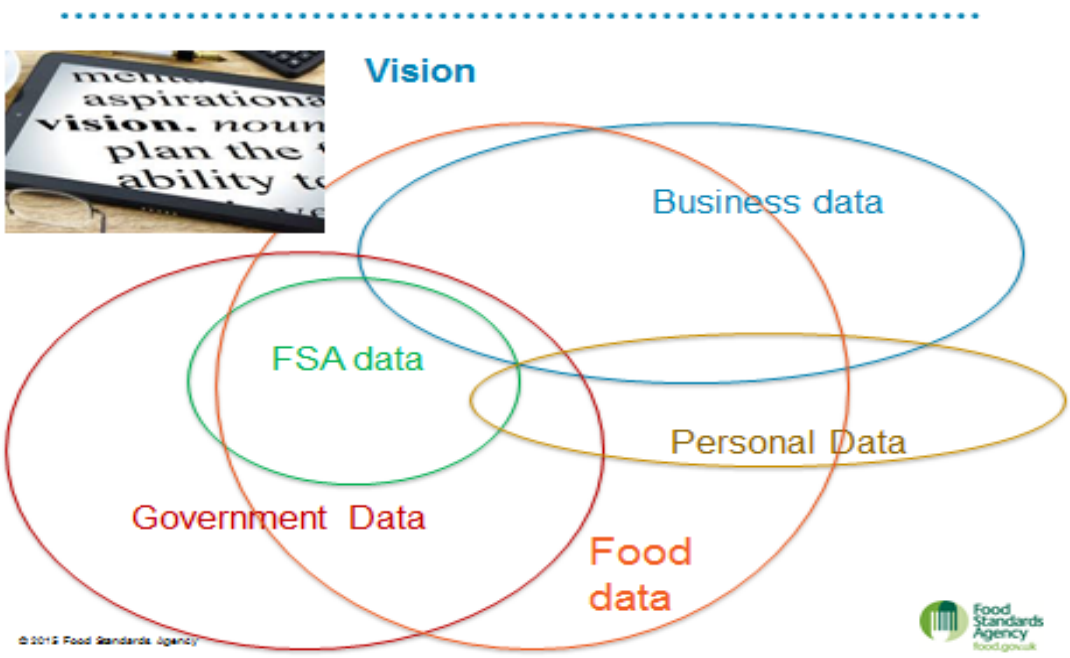
Our Data Vision

1. At the Food Standards Agency we recognise the value of data: both our own and that held by other parties: government departments, industry, academia, NGOs, civic society and social media. We recognise the power and the promise of data to improve outcomes for society in many areas by increasing efficiency, transparency and access to information. We recognise that data can help us safeguard the public and provide them with the best available information about food safety throughout the food system.
2. We consider data to be the fundamental enabler of our ability to deliver our key strategic outcomes in food safety and public information.
3. At the FSA, we therefore commit to using data to its fullest potential by attaining the highest possible standard in information and data management, by becoming data driven and by promoting innovative approaches to data work.
4. We have created this Data Strategy to describe how we will work with data – this key strategic enabler - to deliver the wider strategic outcomes of our organisation and to maximise the impact of all our activity.
5. The Data Strategy consists of Our Data Vision (this section), the problem statement explaining Why We Need a Data Strategy, our Data Principles, our Strategic Data Outcomes, Data Strategy Goals and Data Strategy Action Plan - which contains the more specific actions required to achieve each of the Data Strategy Goals.

Why We Need Data Strategy

7. At the FSA, we recognised the importance of data for our organisation and have embarked on the journey to increase our understanding of how to best use data to achieve our strategic goals and needs. We are now in the process of building an advanced and sustainable capability for information and data management.
8. In the past few months we have significantly advanced our awareness of data issues and we have built strong foundations for information management and governance. Whilst this has generally improved our data capability, it has also made us more aware of the many problems and issues with our data which persist due to the legacy of old technologies, processes and approaches.

OUR DATA ECOSYSTEM:



9. Many areas of our data ecosystem are in need of significant improvement. The poor quality of data on collection is making us start from the low baseline with the low data quality then persisting through its whole lifecycle. This reduces the use of data as people do not trust it, which translates into higher costs of data processing and more effort being needed for data collection and management. Much value is then lost, data does not yield much return on investment and we are not aligned with the ICO good practice.

10. Inconsistent, incomplete and duplicated data sources are used for decision making – potentially negatively impacting the quality of these decisions and introducing business and reputational risk.
11. With many important and high visibility political events on the horizon (e.g. all the legislation and policy changes likely to accompany the UK's EU exit) it is of critical importance to ensure our organisational decision quality is at its highest.
12. As well as risks, poor data quality also creates missed opportunities (e.g. with respect to Regulating our Future, surveillance and food crime). We are less effective than we otherwise could be, as we find ourselves prevented from using the existing data to its full capacity and from taking advantage of exploiting new data sources (e.g. the Internet of Things) and new data methods (such as the Artificial Intelligence, Machine Learning, etc.) to their full power.
13. Similar data challenges were identified in the Discovery Report for the IT Strategy conducted by Rainmaker in 2016.
14. It is important to recognise that the work described in the Data Strategy will need to be undertaken in alignment and in collaboration with the FSA's internal IT section and the relevant IT service providers. Some of the effort will have to focus on designing and building the right technical infrastructure to support development of the overall data capability within the FSA.
15. This necessarily has implications for the IT Strategy in terms of the technology platforms and tools which will need to be built or procured and then supported, therefore a close and on-going dialogue with the internal IT function is required to align the work on the data infrastructure and to consider all the related dependencies, opportunities and risks. The IT Strategy Discovery report highlights the need for a bold and progressive data strategy and recognises the impact and importance it will have for the overall direction of the FSA's future IT Strategy.
16. Extra resources will need to be made available for the effort - as it is likely to exceed the 'business as usual' capacity - both in terms of staff time and budget. The extra resourcing is likely to be required for both the internal IT section and the Information Management team.
17. For all these reasons, the FSA needs an ambitious and game changing Data Strategy. We need it to identify our needs and our goals, to focus our minds on the outcomes we wish to achieve using data and to provide a clear guidance for our efforts. We need to agree our Data Principles to inform our priorities and decisions we take about our actions and plans. We need the Data Strategy to reiterate our commitments, re-state our goals and to map out a clear path and action plan to achievement.
18. Finally, we need the Data Strategy to be our communication tool - to help everyone in the organisation understand the value of data and what it can do for them. We are hoping that a clearly stated and communicated data strategy will inspire and motivate our colleagues to support us and to participate in the

effort to make the FSA data driven - making them more aware about the value of data and enriching their own work, thus creating value for the entire organisation.

Data Strategy Summary

20. Our Data Strategy is based on our Data Vision and our core Data Principles. The Strategy specifies how we will value our data and manage it to support the FSA's business outcomes and to create value for the public and for ourselves.
21. The Data Strategy expresses our intent to create a strong organisational data culture and to make the FSA data driven - as expressed in our organisational objectives plan of 2016/17 and in the Chief Scientist's Report of March 2017.
22. We will put data on the organisational agenda and promote data literacy, data driven decision making and positive attitudes towards data. We will be advocating to senior management that data utilisation targets be a part of our overall performance measurement. We intend to use visual methods and story-telling to promote our data success stories and to highlight further opportunities for positive outcomes and impact which can be enabled by data.
23. We understand that in order to achieve these goals we need to build a modern data capability within the FSA and to support and encourage our Data Team to create even more powerful insights from data. We need to develop further our Data Science expertise and find ways to increase its impact. We also need to increase the overall data literacy across the Agency and equip our workforce with the skills to engage with data and use it more effectively in their work.
24. We need to guarantee that our data and information continues to be effectively governed and protected by ensuring our policies, processes and skills remain current and fit for purpose. But we also need to innovate with data and collaborate with our government and industry partners to create better insights and information. We need to continue to publish our data as Open Data, striving to achieve our ambition of most of our data being openly and regularly published - promoting reuse of our data by external agents and by ourselves.
25. To make sure that we attend to all these needs, our Data Strategy Action Plan creates a list of foundational tasks, joining together all strands of our data work and linking them into a coherent programme to build a strong platform for execution for our ambitious data strategy and achievement of wider organisational outcomes.
26. The Action Plan shows how we will work with our colleagues across the Agency to improve the understanding of our information needs and how we will architect and build modern data infrastructure to meet our current and future needs. The Action Plan specifies how we will enrich our data estate through development of our own datasets and the reuse of trusted data from external sources. It reiterates our commitment to the proportionate and appropriate data processing - in line with the Information Commissioner's Office principles, the law and our own strong stance on data ethics.

27. The Action Plan contains the list of technical tasks, where we will work with our IT partners (internal function and external suppliers) to build and operationalize a modern data infrastructure that is resilient, flexible, scalable, and enables us to use modern data technologies and approaches to make our organisation more efficient.
28. The Data Strategy shows how we will strengthen our data practice and our Data Team - enhancing our capability in data science, data architecture, data governance and other relevant data disciplines and ensuring that we have the technology, tools, processes and skills to deliver impactful and relevant data work for our organisation, our partners and the public.
29. We will continue to champion transparency, advocating Open Data and promoting strong communities of data consumers interested in working with us to create value from our data and using it to increase positive outcomes for everybody. Following from that goal we will naturally continue to proactively publish our data as Open Data, aiming for most of our data to be publically accessible in reusable format.

Data Principles

31. Our Data Principles express our values, beliefs, priorities and philosophy in relation to data. They underpin everything we do with data and inform how we use data to achieve the Agency's strategic outcomes.
32. The principles encapsulate our belief that data is a valuable organisational resource which must be managed strategically to create business value. Our data is at the heart of our responsibility to safeguard the public and to inform them about food safety and other food related issues. We make great effort to ensure our data is trusted.
33. We aim to create a strong data culture within our organisation and to become a 'data driven organisation'. We are at the forefront of thinking about data ethics and believe strongly in ethical data collection and usage, respecting information relating to organisations, individuals and everything in between.
34. Our vision of being 'data driven' is about making data available for use when an individual or team identify the need for it. Timeliness is of key importance. We want to make access to information easy, immediate and supported by the necessary tools and expertise. We want our Agency colleagues to be able to use the data they work with to its maximum effect - with full understanding what it will and won't support.
35. We aspire to excellence in our data management and strive to advance our data capability. We champion transparency and efficiency across the food sector - proactively publishing much of our data as Open Data and working proactively to reuse it and to realise maximum value from it - encouraging our public and private sector partners to do adopt aligned approaches towards their data and to work with us towards our shared goals.

Our Data Principles are:

i. Value
ii. Trust
iii. Responsibility
iv. Culture
v. Ethics
vi. Excellence
vii. Open Data

Strategic Data Outcomes

37. Our Strategic Data Outcomes summarise the high level business results we wish to achieve with our data. They set out our approach to data and specify how we will use data to help us achieve the high level strategic objectives of our organisation. The Strategic Data Outcomes show how our data and information management underpins our corporate strategy.

Our Strategic Data Outcomes are:

i. Effective management and use of data to deliver the UK food safety - putting consumers at the heart of all we do.
ii. Leveraging data to fulfil our statutory responsibility to protect, to inform and to educate the public about food safety.
iii. Increasing trust in the UK food data and the food safety information in the public domain.
iv. Championing transparency and efficiency in government and beyond through our on-going commitment to open data.
v. Building trust and alliances with our public sector and industry partners – utilising and reusing data extensively, whilst remaining sensitive to the issues of personal and corporate data privacy.
vi. Delivering innovation and value through creative use of data to become a data driven organisation and the best organisation we can be.

Data Strategy Goals

39. We have defined our Data Strategy Goals as the specific objectives we will pursue in order to deliver our high level Strategic Data Outcomes. These goals include becoming a data driven organisation and a transparency champion as we believe these actions will make the biggest contribution to the larger strategic goals of the Agency.
40. Our Data Strategy Goals express how we will build an advanced data capability, including the skills, infrastructure and governance required to deliver the high level strategic outcomes and impact defined in both our organisational and data strategies.

<u>To realize our Data Vision and to accomplish our Strategic Data Outcomes, we will:</u>

i. Become data driven (create a data culture)
ii. Develop our data estate[1]
iii. Improve our data infrastructure[2]
iv. Strengthen our data capability
v. Further mature our data governance (including achieving GDPR compliance)
vi. Champion transparency through Open Data

[1] Data Estate is all the data assets an organisation holds permanently or intermittently in all of its data stores or pipelines (including databases, electronic files, documents, images, logs, datasets, contents of data warehouses, data lakes, or content management systems, even paper files in physical filing cabinets)

[2] Data infrastructure is all the technology (hardware and software) an organisation utilises (owns or rents via managed service or as a Cloud service) to collect, capture, store, process, disseminate, integrate, analyse, present, visualise, manage (backup, restore, replicate), govern and dispose of its data

Data Strategy Action Plan

42. Our Data Strategy Action Plan details specific actions we will take to achieve each of the Data Strategy Goals.
43. Although the actions described below are quite specific and deemed appropriate at this time - it is important for our Data Strategy to remain flexible and responsive to changes in the environment. Political, economic and social priorities may and will change, often at short notice, necessitating change to the FSA's corporate strategy and the resulting change to the priorities and activities related to data.
44. Therefore, it is more important to focus on the general thrust and direction of travel for the Data Strategy – that of building the general data capability for the future and increasing the effectiveness and innovation of our data environment - than on attainment of any specific set of goals. Because of that, the following Action Plan is presented as current and present but subject to periodic review and re-assessment of the strategic goals and the related actions.

The Data Strategy Action Plan:

Become data driven (create a data culture)

a. Increase data literacy across the organisation
b. Promote data driven decision making at all levels
c. Actively engage in the public debate on data ethics and advocate the Agency's position on the subject
d. Implement Key Performance Indicators for data utilisation
e. Develop sustainable data innovation and future readiness plan
f. Develop data visualisation competency to showcase the power of data
g. Develop and tell stories showcasing the value of data and build experience using it (starting with the Data Strategy)

Develop the FSA's data estate

a. Review and define our current information needs from a range of business perspectives
b. Understand our wider data ecosystem (all data we use regularly, whether from our own holding or external – not owned by us)
c. Develop/source new datasets in support of our revised information needs
d. Develop the metadata (information about data) management capability
e. Increase the reuse of our own and external (open) data

f. Make our data more discoverable to internal and external users

Improve the FSA's data infrastructure (in collaboration with IT)

a. Design our 'future state' (to be) data architecture
b. Create the roadmap to deliver the future state data architecture
c. Continue to build the future state data infrastructure in line with the existing IT Strategy/GDS design principles (e.g. reuse, open source where it makes sense, avoiding vendor lock-in, Cloud first, etc.)
d. Continue to transition legacy components to the new infrastructure
e. Define and agree a data infrastructure evolution process to add new components as required

Strengthen our data capability

a. Define the data capability required to deliver our Strategic Data Outcomes
b. Develop the skills of the Data Team to match the new data capability
c. Work to advance data skills across the whole organisation
d. Promote the culture of self-sufficiency in data work across the Agency, enabling the Data Team to focus on high value tasks
e. Develop our Data Science function and find ways to increase its impact
f. Engage with the leading data institutions (such as The Alan Turing Institute) and leverage their expertise to advance our own learning

Further develop our data governance

a. Incorporate data governance into our information management model – defining the roles of data owners, data stewards and data custodians
b. Define and agree organisational Data Standards and promote their implementation
c. Incorporate Data Standards into a wider organisational meta-data (information about data) management framework to increase understanding of data and its quality
d. Increase staff awareness and skill level in information and data management and analytics
e. Continue monitoring and curating our growing data estate
f. Develop action plan for strengthening our data protection stance and attain voluntary General Data Protection Regulation compliance

Champion transparency through Open Data

a. Achieve our ambition of a high percentage of our data to be published as Open Data

b. Create sustainable data publication mechanisms, securing commitment from data owners to on-going publication and timely dataset refresh
c. Publicise the data we publish and promote its reuse
d. Where appropriate, develop data visualisation of our Open Data sets to increase their impact
e. Engage with the external consumers of our data, building communities of interest and supporting data discovery and repurposing efforts
f. Take part in public data events to enhance the Agency's reputation and influence in the relevant communities
g. Advocate transparency and Open Data with our government and industry partners, encouraging them to be more open and to publish more data