Case Study:

Food Standards Agency Open Data

Type: Organisation, website, data portal

Organisation(s): Food Standards Agency

Tags: open data, metadata, standards, accessibility

The [Food Standards Agency (FSA)](#) is a government agency responsible for the regulation of food safety standards. It releases a range of open data on a [data-focused section of the main website](#). Open data covers information about food standards, businesses, and organisations covered by their regulatory work, as well as local authority monitoring work.

The FSA's open data is influenced by its [Data Strategy](#), with senior responsibility held by a Director of Openness, Data, and Digital. Whilst the organisation provides much of its data openly, it also has access to a range of other datasets, which it makes open primarily to researchers for non-commercial uses.

Background

The Food Standards Agency is responsible for the regulation of food safety and standards in England, Wales, and Northern Ireland. To conduct these activities, the organisation is heavily reliant on accurate, timely, and complete information. For several years, the organisation has used its existing datasets and expert knowledge to drive activity through the use of data science.

In 2017, the Chief Scientific Adviser, Professor Guy Poppy [noted the achievements of the organisation in its data science applications](#) – including predicting norovirus cases through tweets. In the 2016/17 operational plan for the business, the organisation focused on becoming a 'data-driven organisation', harnessing and using the power of data, while also aiming to be open about its data ambitions. However, the success of data science applications and a data-driven organisation is predicated on consistent, detailed, timely and complete datasets.

Professor Guy Poppy's report was based on the development of the [2016 Data Strategy](#) for the organisation. The strategy noted the importance of data to the organisation, and identified a series of data principles, and data strategy goals to make the organisation data-driven. This was complemented with a [Data Strategy Action Plan](#), which aligned the FSA with the GDS's [Government Design Principles](#) and sought to mitigate many of the cultural and technical barriers to using – and opening up – its data.

[The Strategy was further enhanced in 2019](#), with a focus around three goals: helping everyone get the most from their data; connecting, sharing and working well with others; and understanding the ecosystem the FSA worked in. Much of the information the FSA collects comes from local authorities, given their roles in trading standards, public and environmental health.

The FSA has a strong data focus, and opening up datasets is just one area of their work. In 2016 they [aimed to open 95% of their datasets, although only achieved 64%](#). While this ambitious target was missed, they still almost doubled the number of published datasets in

the last quarter of 2016/17, and were able to identify significantly more datasets that could be opened. There are currently 201 datasets available openly on the FSA's open data portal.

Context: innovation in government regulators

The FSA's work in the field of open data is part of a wider picture of government regulators increasingly embracing innovation. This helps improve their image among partners in the private sector by seeking ways to use regulation to enable business rather than merely present barriers.

This includes Ofgem's Innovation Sandbox Service, which collaborates with innovators with alternative and low carbon energy solutions to experiment with ways to mitigate regulatory barriers to their development. The FCA's Digital Sandbox takes a similar approach and focuses on encouraging innovation in the field of fintech.

Open data portal

The FSA's open data portal contains a wide variety of information, from as far back as 2001. The catalogue includes reports and datasets, but the most widely publicised and comprehensive datasets are the food hygiene ratings; approved food establishments; and local authority enforcement monitoring (LAEMS). These three datasets are supported by additional contextual and usage information, such as logos and design principles. Sensitive datasets are published regularly, with the list of approved food establishments published monthly.

Datasets can be located using a free text search or through filtering by year published. They are available in a raw format, like XML or CSV files. In some cases, this can make use of the data – for analysis or research – more difficult to use, especially if users are not used to using XML.

The open data portal also offers users the ability to both provide feedback on the quality of its data offer and to report an issue with a food establishment or product directly online.

Important considerations

Strategic importance

The key driver of the FSA's open data approach has been its much wider strategic approach – including a data strategy defining the work of the data and digital teams; a director with responsibility for both the information architecture in the organisation and the openness of that data; and a chief scientific adviser reliant on the heavy use of reliable data.

This is based on a recognition of the wide range of positive effects that can emerge from opening up data flows:

- incentivising improved data standards;
- increasing transparency and access to information, minimising burdens for businesses;
- providing better information to the general public;
- making the FSA more data-driven, promoting innovative data applications internally; and
- giving government departments, academia, industry, civil society, and the media the tools to harness the power of data.

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Data Strategy Action Plan

The [FSA's 2016 strategy action plan](#) sets out many of the key considerations for any organisation seeking to open data, including:

- developing the ability to showcase data by using visualisations and telling stories;
- increasing data literacy, data science capabilities, and data-driven decision-making;
- developing organisational Data Standards and metadata management capability;
- increasing re-use of internal and external datasets;
- making data more discoverable to internal and external users;
- engaging with leading data institutions like the [Alan Turing Institute](#) to leverage external expertise; and
- engaging with external consumers of data to build communities of interest and enhance the FSA's reputation.

The [2019 strategy update](#) enhances, rather than replaces, the 2016 plan. It focuses on how to improve engagement with users, increase collaboration on projects with other organisations, and develop new applications for FSA datasets.

Open Data engagement strategy

The diagram below shows the process the FSA uses to publish new datasets as of 2019. This process minimises the chance of errors and keeps manual work to a minimum, whilst ensuring that key partners and any interested parties are kept informed immediately about any data releases.
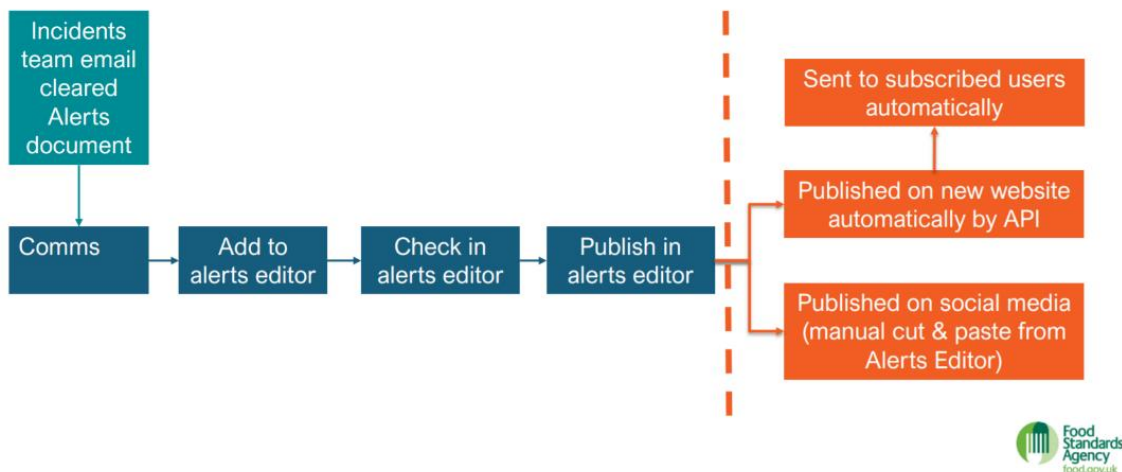
Source: Food Standards Agency

The FSA also prioritises spreading the word about its findings and data initiatives to a wider audience, with representatives attending conferences and forums and giving 'lightning talks'.

Internal data use

Since the start of its data initiative, the FSA has expanded its capacity to interpret and use its data at an operational level. Since the FSA's data ecosystem is now fully mapped out, the agency can work in an agile way to measure risks and impacts, allowing them to decide where to focus resources. The agency has invested in internal Data Science capacity to

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drive predictive modelling of food incidents, using a range of data points, ranging from weather data to economic measures.

FSA Innovation: Using Blockchain

The FSA is actively exploring new ways of further improving its data architecture to improve the efficiency of its core activities. As an example, they carried out two pilot exercises using Blockchain to reduce fraud and error in the food supply chain. Blockchain technology offers the ability to trace an individual animal through the supply chain automatically. This reduced operational burdens, as well as the scope for errors in data entry and duplication.

After this pilot, the FSA plans to work with other government agencies that are exploring other applications of Blockchain and collaborate with the Science Council on the use of artificial intelligence.

Blockers and challenges

The FSA's initial targets for data publication of 95% ultimately proved to be overambitious in the context of labour-intensive publication processes and regulatory hurdles. However, the organisation has adjusted its strategy effectively along the way, increasing ambition in priority areas (collaborating with others, exploring new data uses) and reducing it in others (such as data visualisation and publication targets).

User experience

FSA datasets are accurate and of high quality, and are generally easy for researchers, developers, or civil servants to identify and use. However, there are features that make them more difficult to navigate than they could be. For instance, it is difficult to explore the FSA's full data catalogue due to a lack of filter options. There are also few data visualisations to allow interactive exploration of datasets, and instead mainly raw CSV data files which require prior knowledge to interpret. The separation of data into files for the year of data release also renders quick multiyear comparisons difficult.

Overall, it might be difficult for a user with lower data literacy to use these data to gain a quick overview of establishments in a given local area, or to explore the FSA's overall data offer. However, this user segment is clearly less of a priority for the FSA.

What can Greater Manchester take from this?

- Using open data to encourage business activity is not just about high-value datasets that businesses can use for innovation, but also about minimising regulatory burdens by improving access to key information.
- It makes sense for Greater Manchester to link any new approach to open data to a wider data strategy that recognises the positive connections between open data and other parts of the digital agenda. This can include increasing internal expertise and creating a data-driven culture.
- Developing a comprehensive data strategy can help deliver key tools, in the form of high-quality datasets and fully mapped data architecture, that help drive internal data innovation and improve operational efficiency.
- Greater Manchester should consider a similar data release pipeline to the FSA, ensuring that each data release is widely circulated among email subscribers on social media, and given a full launch on the website.

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- Open data need to be discoverable as well as available to people not familiar with the portal. This is an important part of the communications strategy, which could significantly boost usage.
- Greater Manchester should collaborate where possible with government agencies, local authorities, and other organisations on more ambitious data projects. Pooling expertise and data resources could greatly increase what is possible.
- Any local data project is likely to change in scope along the way as new challenges and opportunities present themselves. Greater Manchester's local data programme should be supported by a clear and structured plan, whilst also leaving room for flexibility and agility as the situation develops.
- Every data portal needs to clearly define key terms used within dataset or metadata, such as 'establishment' or 'premises', to minimise ambiguity, even where the meaning might appear obvious to the data publisher.

Find out more:

https://data.food.gov.uk/catalog

https://www.food.gov.uk/sites/default/files/media/document/data-strategy-update-2019.pdf