

Talking point

Open data – unrecognised potential

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The commercial and data protection foundations for debate about big data may well already be in place. But far removed from the debate about monetisation and data misuse there is another world in which data applications, regardless of their data volumes, can provide a valuable economic benefit to society. Our increasingly digital and data-driven economy enables us to more rapidly detect potential ways to boost efficiency and productivity and subject them to closer scrutiny. In this context, the desire for greater transparency, participation and collaboration provides an important motive for experimenting ultimately in fact with new forms of democratic processes. The initially exponential growth in the volume of data and its intelligent evaluation provide the fertile breeding ground needed for innovation and economic growth in the digital age.

Unlike the big data applications that are usually talked about, “open data” (or “open government data”) does not serve primarily monetary purposes, but it does also offer an often underestimated wealth of data that different stakeholders can use multiple times for any number of reasons. Open data is digital, anonymised information that is made publicly available with (almost) no restrictions. Like many other (digital) developments concerning digital structural change, the open data movement is still in its infancy. However, it holds the promise of providing the innovation process with many valuable stimuli at the macroeconomic level thanks to the related spillover effects being unleashed.

Open data is usually focused on non-textual material, such as maps, satellite images, geospatial data and environmental data, rather than documents and personal records. This movement is driven by the growing demand of citizens for transparency in public administration, interaction and collaboration. Another aspect that could present an economic benefit is data-driven innovation. After all, these data sets can be used freely by the general public, consumers, journalists, researchers, companies, organisations and so on for all kinds of different purposes, both private and commercial, and, most importantly, they can be re-used again and again. This freely available data, in combination with web-based technologies, creates an economic benefit in the form of new business models, more cost-efficient processes and innovative products and services. Journalists, for example, are using various open data sets to augment their investigative reports, thereby driving forward the field of data journalism.

Open data is there to be re-used and recycled. To support this, the Open Knowledge Foundation (OKF) in Germany organises regular “hackathons” for a wide variety of people including journalists, open-data experts and software developers. They use these events to share ideas and tips about the mining of existing, freely available data and the design of new web-based services in the form of apps. This supports the development of further beneficial trends, such as open government initiatives.

Although open data can actually cover all types of data, the term is often used as a synonym for open government data. The gradual liberation of government data is changing the relationship between citizen and state. This data that is being made freely available is adding a new dimension to democracy; the previously opaque workings of authorities are becoming more transparent. The US and the UK in particular (data.gov; data.gov.uk) as well as certain Nordic countries are playing a leading role in the publication of government data. Various open data projects have already been successfully implemented in these places and are being used by the public.

Several years ago, a list of standards was developed that is today known as the Ten Principles for Opening Up Government Information (see text box). They are intended to help governments and administrative bodies make their data records available to the general public. In mid-2013 the G7 member states signed the Open Data Charter, which committed them to the implementation of further principles that would see them open up their data by 2015. They include, for example, the quality and quantity of data, utilisation for everybody, publication of data

for better government policy action and the release of data for innovation purposes.

The ten principles for open data:

- **Completeness**
All raw information from a public data set should be made publicly available in its entirety – ideally along with formulas and explanations for how the derived data was calculated. Public data is data that is not subject to valid privacy, security or privilege limitations.
- **Primacy**
Data should be collected at the source, with the highest possible level of granularity, not in aggregate or modified forms.
- **Timeliness**
Data should be made available as quickly as necessary to preserve the value of the data – ideally as soon as it has been collected and collated.
- **Accessibility**
Data should be available to the widest range of users for the widest range of purposes. It should be made as easy as possible for people to access the information they require.
- **Machine readability**
To make the data suitable for automated processing, it should be structured in a common data format.
- **Non-discrimination**
The data should be available to everyone at any time and with no requirements for identification (registration or other membership requirements).
- **Use of commonly owned standards**
Data should be made available in standardised, freely available formats over which no legal entity has exclusive control.
- **Licensing**
Data should not be subject to any limitations of use such as copyrights, patents, trademarks or trade secret regulations. Reasonable privacy, security and privilege restrictions are allowed, however.
- **Permanence**
Public data should be made permanently available in online archives.
- **Low usage costs**

Source: <http://sunlightfoundation.com/policy/documents/ten-open-data-principles/>

An example of open data is Britain's Where Does My Money Go? website that gives the UK's taxpayers a breakdown of what their money is being spent on. Its German counterpart is a website called bund.offenerhaushalt.de and offers in-depth information about government spending at national level and includes details about the size of budget available to each department. Since 2005, when Germany's Freedom of Information Act was passed, every citizen has had the right to demand information about such matters. The data on the website is presented in a way that makes it quick and easy for people to access, analyse and process this information.

In the UK, however, it is not only information on how the government spends tax money that is available online. Open data at a local level is being provided to the general public in a similar scale on the OpenlyLocal website. Nearly one quarter of the UK's local authorities have made their data publicly available here, and more are being added every week. As well as breakdowns of spending, the data published on the site includes all other unclassified municipal information such as population statistics and local financial data.

An organisation based in London (MySociety) has launched a website called Fix my Street that allows people to report potholes, broken traffic lights and street lights directly to the relevant authorities. Thanks to the accompanying app, smartphones can be used to send photos of specific potholes to the relevant authorities, who can instruct repair jobs using the GPS data. The person who reported the fault is given regular updates about the progress of the repair. This concept has since been imitated in a number of European countries. These kinds of platforms can benefit both the municipal authority and the residents – however, there are not always sufficient public funds to repair the fault immediately.

In Germany there is still no central database in which all municipal administrative data is collected. Individual cities, such as Cologne and Frankfurt am Main, are now offering these kinds of tools, however. The website Frankfurt gestalten – Bürger machen Stadt .is designed by the people of Frankfurt for the people of Frankfurt, providing information about the city free of charge. In addition, people can use the OpenStreetMap wiki to search for existing data sets relating to local politics and other matters, e.g. police reports and roadworks notices. There are also various forums where citizens can discuss local developments.

All these projects demonstrate that the focus of open data – as an alternative use of data in the big data discussion – is much more on benefiting society than on earning money. The big data discussion, which is being driven relatively strongly by monetary aspects, may perhaps also be able to give additional momentum to open data and to the creation of value. The opening up of previously inaccessible data is not only relevant for the public sector; it also undoubtedly has potential for other areas. In education (Open Research Data), for example, we can observe a liberation of data in how departments are making whole series of lectures including the accompanying handouts publicly available on YouTube or on the university websites (e.g. the Massachusetts Institute of Technology's MITOpenCourseware).

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Author: Thomas-Frank Dapp (+49) 69 910-31752

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