

3 Open data

Big data to better serve the citizens

Access and reutilization of data to develop new services are two of the foundations of the digital economy. Governments and public authorities are now promoting open access to data, since they are well aware of their potential for boosting economic growth.

Data and open access

Ever since the prestigious magazine *The Economist* published its article entitled “The data deluge”³ in 2010, the term *big data* has been one of the mantras of the new internet age. The exponential growth in the volume of data produced, combined with the falling processing and storage costs, allows us nowadays to have detailed information on almost any aspect of life or of our environment. Data are the basis of the internet economy, and the flow of data now generates more economic value than global goods trade⁴.

In the broadest sense, open access initiatives encompass, inter alia, free software, open source software, open access to scientific knowledge, as well as open data. The latter seek to make the data generated by the public authorities available to society at large, so that any citizen or business can use them to generate information and knowledge or develop new services. According to the consultancy firm McKinsey, open data could help unlock US\$3 trillion a year in economic value in seven sectors: education, transportation, consumer products, electricity, oil and gas, healthcare and consumer finance⁵.

In order for these initiatives to be possible, data must not only be available but also accessible and re-usable, which implies the use of open standards for their publication and user licences allowing their redistribution or combination with data from other sources, as well as having an appropriate cost. Interoperability is achieved with the use of shared protocols (such as APIs), taxonomies and standardised formats and by means of creating repositories in which to make data easily available.

In developing these initiatives, it is also necessary to consider the legal constraints relating to privacy and security, as well as the legislation of each particular country, as regards to both the access and distribution of data and the possible cost derived from their use.

Government open data initiatives

Governments and public authorities are among the main collectors of data, and by their very nature must seek the best possible use of this resource for the benefit of their citizens. One way of attaining this objective is without doubt to develop policies of free access to data. There are open data initiatives at every level of the administration, and they can be driven by governments themselves, pressure groups working on a particular subject or by citizens themselves.

National statistics on education, housing, healthcare, etc., data on public budgets and spending, national maps (including postal codes), data on public transport and data from public agencies, such as the Meteorology Office, are some of the data that governments can open to allow the construction of new services by citizens, businesses or other public authorities. Data from cultural institutions such as museums, archives and libraries could also be exploited, although in this case there may be greater constraints as regards to intellectual property rights.

3: “The data deluge”, *The Economist*, 25 Feb. 2010

4: Manyika, James, et al. *Digital globalization: The new era of global flows*, McKinsey Global Institute, 2016

5: Chui, Michael, et al. “What executives should know about open data”, *McKinsey Quarterly*, Jan. 2014

The objectives of these open data policies and, more broadly, of **open government** policies, are to achieve greater transparency and increased citizen participation in public life, as well as to reduce costs by facilitating cooperation among different authorities thanks to the interoperability of data.

One of the pioneering public initiatives in opening up data is that of “**smart cities.**” Combining data from a variety of sources (sometimes including networks of sensors) allows to generate patterns of behaviour, which helps improving services at local level, such as public transport and emergency services.

Among the countries that stand out in these kinds of policies, the **United Kingdom** heads both the annual ranking published by the Open Knowledge Foundation (an index⁶ measuring access to key indicators, covering 122 countries and 1,586 databases in 2015) and the Open Data Barometer of the World Wide Web Foundation⁷ (covering 92 countries and measuring the degree of readiness, implementation and effect of open data programmes). The British government has promoted open access policies through a variety of programmes such as the Public Data Group, which operated from 2011 to 2015.

As for the **European Union**, as part of its Digital Single Market strategy, the Commission published *Directive 2013/37/EU (the PSI Directive)*⁸ on the re-use of public sector information. This directive seeks to harmonise the types of public data available for re-use in the internal market, in accordance with the relevant access system (amending Directive 2003/98/EC). It encourages countries to allow access to and re-use of as much information as possible, and places limits on agreements granting exclusive rights to data. Nevertheless, there continue to be differences among Member States, which may hamper developments covering more than one country, where account must be taken of the different regulations and possible payment of fees for the use of data.

A key point in the European open data ecosystem is the creation of a pan-European data portal. In December 2014 the Commission launched the project for the creation of the [European Data Portal](#), which harvests public access metadata from all over Europe.

In the **United States** open government has been driven by the Open Government Directive of 2009, which was based on the principles of transparency, citizen participation and collaboration, and required all government agencies to include at least three significant data sets in the portal [data.gov](#)⁹. This portal currently contains more than 180,000 data sets.

Conclusion

There is a clear awareness on the part of the public authorities of the potential for economic development represented by the implementation of open access policies, and initiatives are being carried out to make public data easily accessible and re-usable in the development of services and the creation of value. However, much remains to be done in terms of making regulations more uniform and standardising access so as to facilitate overall developments, within the constraints of privacy and personal data protection.

6: Open Knowledge Foundation, [Global Open Data Index](#)

7: World Wide Web Foundation, [Open Data Barometer](#)

8: *Directive 2013/37/EU* of the European Parliament and of the Council of 26 June 2013 amending Directive 2003/98/EC on the re-use of public sector information, OJEU 27 June 2013, 2013

9: [Open Government Directive](#), US Government, 2009

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