'Cloud computing introduces new challenges'

Why have governments started to digitalize their data?

'Governments have always heavily relied on information processing techniques to perform their activities. Some scholars even argue that today's modern, bureaucratic governments are the very outcome of the ways in which information got collected and stored. Historian Chandra Mukerji, for instance. In her view, the growing power of the king in France in the 17th century was facilitated by the newly introduced employment of low-rank officers to measure, collect and transfer territorial knowledge. The rise of this new class weakened the monopoly of the nobility on state administration, thus strengthening Louis XIV's authority. This is a nice example of how the shape of governments is closely connected - in Science and Technology Studies we say 'co-produced' - to the set-up of information flows, whether these are analogue or digital, on paper or on the TCP/IP protocol. This is especially evident when it comes to spatial and personal data, the original assets of state power.'

So the digitalisation of governmental data started well before digital information technologies like cloud computing were available?

'Certainly. The seeds for it were sown somewhere between the late 16th century and the 17th century. In that time period, influential thinkers like Thomas Hobbes started to use machinic metaphors to describe the state. This ultimately influenced English mathematician and engineer Charles Babbage, who in the 19th century designed his Difference Engine: a calculating machine, meant to support the separation of governing processes. It was controlled by instructions in the form of holes punched into cards. That was the first digital data: a hole corresponded to one, a lack of a hole to zero. It was 'data' seemingly unrelated to human labor and recorded on material. The rise of the Internet also illustrates how governance-making and data-making have gone hand in hand. It's more than a coincidence that it emerged out of Arpanet, a military information infrastructure.'

The collection and storage of their citizens' data can clearly strengthen the power base of governments. Can it also weaken them?

'Definitely, particularly when we see governments for what they are: broad entities that consist of many departments and levels. Think here for instance of local authorities that have

'WHO OWNS THE DATA?'

Thanks to the advance of cloud computing, ever-smarter computers and a need to cut public spending, the digitalization of governmental data is on the increase. But like any technical process, this is not without political implications. Marloes van Amerom chats with Annalisa Pelizza, Marie Curie Fellow and Assistant professor at the Science, Technology and Policy Studies Department, to find out more.

to accept that their long-standing procedures are changed, because digitization imposes new technical rules that were decided at the national level. Cloud computing introduces new challenges, also in the relationship between governments and other parties. Take a civil servant who has to request access to governmental data, because these data are stored in a 'cloud' on a supplier's servers. Who owns the data, in that case? The government agency that is the owner by law, but that has to obtain credentials to access them? Or the supplier that might access and distribute the data – even though it was never authorized to do so?'

Combined with new laws in many European countries that force governments to disclose their data more and more, the digitalisation of governmental data seems to allow for more transparency and openness in our democracies. How do you see this process?
'I think that the release of publicly accessible data by government agencies can indeed produce benefits for society at large. Data journalists, for instance, can help to create more awareness among citizens of issues at play; journalistic visualisations

are incredibly powerful uses of government data to create public accessible knowledge. The democratic potential of open data is not to be taken for granted, though. It depends on who will use this information and for which purposes.
For instance, a start-up company could use governmental open data to provide insurance companies with detailed information about the distribution of risk patterns of diseases among the population, based on income, type of work and number of children. This may be a perfectly legitimate use of open data, but it would not add much to openness and transparency, including because the cross-elaboration of those data would not be released in the public domain.
Traditionally, data was collected and retained by governments for specific purposes: personal, health, tax and spatial data was used towards government agencies' specific institutional activities. Now that they have become 'mashable', the potential use of government data has become unpredictable. Moreover, thanks to web services, the distribution of data can easily go beyond national boundaries. That's why it's so important to identify which 'smart intermediaries' are emerging, that will be able to transform those 'Big Data' into publicly valuable knowledge. My current research project makes a start with this.'

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