Open Data Policy and Practice

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INTRODUCTION

90% of data in world today has been created in the past two years alone. Some estimate that data production will be 44 times greater in 2020 than it was in 2009. Others estimate an additional 2.5 quintillion bytes of data are being generated every day (Office of Australian Government Information Management, 2013, p.1).

Governments hold vast amounts of data paid for by taxpayers. Policymakers around the globe are now releasing much of their share of data in the public interest.

Case Study: Data.gov

In 2009, the Obama administration launched Data. gov–a "one stop shop" portal for accessing government data–in one of the first, if not the first, such initiatives. Other governments soon followed suit in a global movement of sorts.

As of 2013, Data.gov included 91,085 datasets, from 175 agencies, encompassing whole of government. This is a huge amount of data: the European Union open data portal (http://open-data.europa.eu) by contrast supports 6,286 datasets, the UK 38,000. Developers have written 349 aps that exploit the datasets, along with another 137 mobile aps. There are 409 government application programming interfaces (APIs).

In the first three months in operation, Data.gov hosted 219,053 downloads. In 2010, downloads increased to 1,337,352, followed by 1,534,478 downloads in 2011. In 2012, downloads precipitously decreased to 647,841. Countries downloading the most data were India, China, Canada, Japan and UK.

Data.gov includes dozens of communities of practice organized by topic, including everything from education to the environment. Each one hosts a blog managed by the community. Data.gov allows the public to suggest a dataset, which is then considered by the government. Data.gov posts metrics on visitor access to the site.

Data.gov spawns partnerships to publicize and exploit data analysis opportunities. Rensselaer Polytechnic Institute, for example, is helping to promote sematic web (Web 3.0) applications that will greatly increase the utility of the data available. There is also a developers' corner to share knowledge about what works and what doesn't. A special educators' section allows sharing of curriculum designed to build skills and increase awareness among students at all levels.

The government periodically issues challenges to developers at www.challenge.gov to encourage innovation. In addition, the government offers Presidential Innovation Fellowships (http://www.whitehouse.gov/innovationfellows) to build capacity.

Data.gov includes a great deal of government data, but not all. Individual agencies also publish datasets to their own websites.

Several Examples

New York City government publishes its public health assessments for the city's 25,000 restaurants, allowing the public to choose the healthiest places to eat. Hospitals publish data on everything from rates of infection to the number of procedures of various types performed. Terrorist incidents globally were once published by the National Counterterrorism Center (www.nctc.gov) but have mysteriously been removed.

BACKGROUND

Open Data–releasing government data to the public with few if any strings attached–is part of a larger suite of policies and initiatives under the umbrella of E-Government, including Open Government and Open Technology. Ostensibly, the purpose of Open Data is to strengthen democracy by improving citizen access to

data which in the past was tightly held by government and only occasionally available through often costly Freedom of Information Act (FOI) requests (http://www.foi.vic.gov.au/). Improved access would then lead to greater government accountability through transparency. Improved accountability, in turn, would improve governance by improving efficiency, effectiveness, economy and most recently equity.

Open Technology–a platform dedicated to knowledge development and sharing–often supports Open Data initiatives but not exclusively so. Participants frequently disseminate software systems, platforms and applications (e.g., government purchasing systems, planning platforms and the like) (https://www.openray.org/). Open Technology platforms are most often developed using open source software (http://opensource.org/osd-annotated).

Open Government encapsulates Open Data and Open Technology. It uses social media, including Facebook, Google, Twitter, and other web-based tools to both disseminate information to citizens and at the same time encourage citizens to offer information, advice, solve problem or suggest opportunities. Crowdsourcing, for example, is increasingly popular in government (and the private sector) (Surowiechi, 2005). Open Government promotes collaboration among citizens through wikis and other collaboration technologies (https://wiki.open.org.nz/wiki/display/main/Welcome). Governments can post proposed designs for public buildings, bridges, or parks on wiki sites asking citizens help design them. An even more sophisticated approach is prediction markets. An organization designates players who act as stock investors using play money to bet on likely outcomes (e.g., the next catastrophic event, winner of an election, the next best thing in a product line)(Dvorak, 2008).

Open Government, in turn, is a component of E-government (http://www.openingparliament.org/). Originally, E-government focused on improving efficiency of government by processing public transactions (e.g., paying taxes, obtaining visas, and acquiring driver's licenses) on-line rather than in person (http://www.whitehouse.gov/omb/e-gov/).

Internal to government, open data, open technology and open government facilitates the movement of data, information, and knowledge across public agencies often breaking down silos that posed once insurmountable barriers. The Collaborative Forum, hosted by the US National Academy of Public Admin-

istration, for example, is a federal agency membership organization that has advanced knowledge sharing across government (http://home.community.collaborativeforumonline.com/). The UK Government has promoted the establishment of networks to promote greater utilization of open data portals as part of its Open Government Partnership Plan. The UK Civil Society Network (http://www.opengovernment.org.uk) is a network that brings together 30 civil society organizations, intended to manage stakeholder interests.

Lately, governments have become interested in opening up data access as a way to spur business development, job creation, and innovation. Deloitte (2013) assessed the market potential of publicly-held data of the UK government. They estimated that the data's value to the public ranged from £1.2 billion to £1.8 billion annually. They observed that the UK has about 37,500 datasets published by 750 agencies with a combined 2.5 million downloads.

International Collaboration

There is considerable agreement among governments on the principles that ought to guide open government initiatives of which Open Data is an integral part. In 2011, eight countries under the umbrella of the UN General Assembly came together to form the Open Government Partnership (OGP)(Open Government Partnership, 2013; Cameron, 2013). As of 2013, 60 countries have joined. To be a member of OGP, countries must have an open budget system, public disclosures fore elected and senior public officials, citizen engagement, and open access to public data. Each country must publish a National Action Plan specifying how they intend to accomplish these goals (http://data.gc.ca/eng/canadas-action-plan-open-government).

Twenty-one participants in the OGP have created Open Data Institutes tied together in a formal network to share data, information and knowledge about all aspects of the initiative and to try to educate potential users to the advantages and opportunities data creates. Canada has a model institute (http://opendatainstitute.ca/).

In a companion initiative, the G8–eight countries having the largest GDP–issued an *Open Data Charter* establishing guiding principles for governments (http://www.g8.utoronto.ca/). Five principles form the charter: open data by default, priority for release of high-value data, user friendly to all users, data to assess governance, and releasing data to spawn innovation.

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