PP+G

REVIEW

PUBLIC POLICY AND GOVERNANCE REVIEW

Editorial Board

Table of Contents

Public Policy & Governance Review

Ostry Prize
Public Policy & Governance Review

#OpenData: Digital-Era Governance Thoroughbred or New Public Management Trojan Horse?
Winner

By Justin Longo

University of Victoria

Justin Longo is a doctoral candidate at the University of Victoria studying the effect of Web2.0 technology and work-modes on the policy process. His interest lies in the knowledge / decision interface in public policy with a specific focus on human-system / eco-system sustainability and mechanisms for citizen engagement.

Introduction

Governments collect, generate and compile vast amounts of digitized data continually—e.g., census and survey work by public statistics agencies (Dillon, 2010), or the monitoring of system conditions across a range of domains from the natural environment to public health (Hodge and Longo, 2002)—as a purposeful data-collection activity aimed at fuelling policy-oriented research. In addition, as governments do the things that governing entails—e.g., collecting vital statistics, administering the tax system, recording government operations activity, managing public infrastructure and natural resources, surveying and recording public and private lands, processing regulatory requirements, or managing social service delivery—a wealth of digital data is amassed as a result (Cate, 2008).

Advances in Web 2.0 (the social web) and Web 3.0 (the semantic web) technology and their applications, and the emergence of masses of rich data from "location-based services" (Ratti, Pulselli and Williams, 2006), continue to increase the flow, stock, and potential knowledge embedded within government data. With this growth in the volume of digital data and capacities for mining insights from it, calls for governments to provide open, easy-to-use and largely free-of-charge access to public data have grown in recent years (e.g., Lathrop and Ruma, 2010).

The #opendata[1] movement has generated significant momentum in a short period of time

[1]   As a phenomenon related to the Web2.0 / Gov2.0 revolution, the reference here and in the paper's title is to the prevalent use of the #opendata hashtag on the Twitter.com micro-blog service (Bonnemann, 2010; Smistad, 2011), which is an excellent source for keeping abreast of new open data initiatives. According to the Twitter analytical tool at tweetvolume.com the hashtag #opendata was used 60,900 times (over a period identified on tweetvolume.com as "all time"), whereas the hashtag #gov20 (for Gov2.0) was used 28,700 times (clearly, these are approximations; note also that tweetvolume.com (and similar services; see Chadwick, 2011)

(Ginsberg, 2011). Propelled by the general advances of Web 2.0 and the expectations of Internet users that have developed alongside, the movement was given a significant boost by Tim Berners-Lee, the inventor of the World Wide Web, who challenged governments to share their data repositories through an open, linked architecture in an often-cited presentation at the TED Conference (Berners-Lee, 2009).

In this short note, I review the benefits—to both governments and the public—that many open data advocates agree are achievable from making digitized government data more open. Following this, I focus on one of these purported benefits and propose an alternative interpretation that identifies a potential downside to open data as currently framed. This interpretation builds upon a key contribution to the Gov 2.0 / Digital Governance literature: Dunleavy et al.'s (2006) sketch of the reported death and post-mortem configuration of the New Public Management (NPM) "wave". The post-NPM transition to ''digital-era governance'' (DEG) is characterized as involving three themes: *Reintegration* (putting corporate hierarchies back together): *Needs-based holism* (agile governance, and efforts to simplify, re-engineer, transform and change agency / client relationships); and *Digitization* (electronic channels as genuinely transformative). Their thesis is that DEG represents a potential paradigmatic shift away from, and a replacement for, NPM (Dunleavy et al., 2006). Part of this DEG landscape can be extended to include the motives and implementation of the open data movement (through "digitization"). However, this note argues that an alternative reading of some elements of the open data advocacy coalition originate in the NPM reform agenda and seek to revive it.

The Benefits of Open Data

Based on my reading of this emerging popular and academic literature (e.g., Bizer et al., 2008; Brito, 2008; Dietrich et al., 2010; Gurstein, 2011; Poynder, 2010; Robinson et al., 2009; Shadbolt, 2010; Smith, 2010), there are three central benefits that proponents argue can flow from greater openness by governments in sharing public data resources:

---

was disabled in February 2011 as a result of Twitter's new policy on whitelisting (Melanson, 2011) and Twitter's efforts to centralized data mining through the data reseller Gnip.com thus revealing how while greater openness in government data is being advocated, data collected through the social web are increasingly being enclosed behind private walls).

Third-party developed citizen services: by providing access to public sector data archives, private sector entrepreneurs will be able to add value to raw data through the development of citizen-service mobile and web applications that re-use public data in innovative ways, principally through data "mash-ups".[2] The development of third-party, citizen-service "apps" is a key driver of recent open data strategies announced by the British Columbia Government (2010), the federal opposition Liberal Party of Canada (2010), the United Kingdom (Cabinet Office, 2011) and some advocates (Livingston, 2010; Open Data Network, 2011). While there are potential market (Anderson, 2009) and strong social forces (Benkler, 2006) that motivate software developers to invest the time needed to create these applications, governments and partner civil society organizations are working to support these forces through various "apps for" contests (Economist, 2010; Kay, 2011; Nichols, 2010).

Expanded policy networks for knowledge creation: by making the raw evidence base widely available, open data has the potential to unleash a civic army of data-fuelled "public" policy analysts that can substantially increase the limited policy analytical capacity in government (Bertot et al., 2010; Eaves, 2010; Noveck, 2009). Allowing non-government analysts (whether researchers in organized policy-oriented think tanks and civil society organizations, academics, journalists, or citizens operating independently or connected through collaborative tools) access to raw government data, coupled with the proliferation of powerful data analysis software, cross-tabulated and assessed in previously unconsidered ways, holds the promise of previously unrevealed insights emerging from a collective policy capacity (Napoli and Karaganis, 2010). A related stream focuses on advances in data visualization and geolocation capabilities through which access to massive datasets expands the possibilities for the drawing of inferences from visual and spatial representation of data (Grammel, Tory and Storey, 2010; Viégas and Wattenberg, 2010).

---

2   A data "mash-up" refers to a web page or Internet-enabled software application that combines data and functions from more than one source to provide a new service (see, e.g., Phuoc and Hauswirth, 2009). A leading use of government data in mash-ups relies on the Google Maps Data API (application programming interface - a software element containing a set of rules and specifications that one software program can follow to access and make use of the services and resources provided by another software program) which allows applications to view, store and update map data through a Google Maps interface. An example is http://whereis-mystreetcar.appspot.com/, a privately-developed system showing the real-time position of streetcars in Toronto which mashes-up data from the Toronto Transit Commission and presents it using the Google Maps API.

Transparency and accountability: with more people aware of how governments spend public money and address social problems, corruption will be exposed, public resources will be better targeted, outcomes will be improved and trust in government and legitimation of the public sphere will be enhanced (Osimo, 2008; Sifry, 2010). This is a leading objective of the U.K. open data initiative (see data.gov.uk), perhaps driven in part by the experience of the MPs' expense scandal (Kelso, 2009) and the successful use of "crowdsourcing" to unearth previously hidden examples of misappropriation of funds (Rogers, 2009). This motivation is also evident in other policy position documents (e.g., Liberal Party, 2010; United States, The White House, 2009). This category rests on a well-grounded premise in the civic engagement literature that a cornerstone of democratic systems is a fully-informed public (Fung, Graham and Weil, 2007) and that open data can promote democracy (Bauhr, Grimes and Harring, 2010).

Commentary: An NPM Trojan Horse?

With the accelerated opening up of government databases (see, e.g., Australia, 2010; Canada, Parliamentary Information and Research Service, 2010; European Commission, 2009; 2010; Ginsberg, 2011; New Zealand, 2009; Schellong and Stepanets, 2011; United Kingdom, Cabinet Office, 2011; United States, The White House, 2009; United States, Executive Office of the President, 2009), coupled with the potential for the many watchers that the new Internet provides, open data in a Web 2.0 world has the potential to enhance government transparency and accountability.

Greater government transparency is a general long-run trend in Western governments, driven in large part by growing expectations on the part of citizens (Dahl, 1989). But if we remove considerations of public pressure (i.e., that people increasingly expect more digital openness from their governments) and focus on the challenges of governing, what would motivate governments, particularly political leaders, to support open data initiatives? There is of course the possibility of genuine belief in democratic principles and the right of the citizenry to know the business of government. It is possible that some politicians and leaders within government believe that open data is both the *right* thing to do (oriented towards benefit #3), as well as the *smart* thing to do (in reference to benefits #1 and #2) (OECD, 2005).

This note is focused on whether an alternative motivation is possible or likely. My hypothesis, based on a small but growing number of examples highlighting political support for open data, is that some advocates—particularly politicians, but not exclusively—are motivated by beliefs (both explicit and unconscious) forged in the New Public Management (NPM) reform agenda. From this perspective, support for more open data aims at building coalitions of citizen consumers who are encouraged to use open data to expose public service decisions, highlight perceived performance issues, increase competition within the public sector, and strengthen the hand of the citizen as customer.

The New Public Management agenda arose in response to the political leadership of Margaret Thatcher and Ronald Reagan and the neo-conservatism of the late 1970s / early 1980s, and became an umbrella term for public choice-oriented economic and managerial reform of government administration (Hood, 1991). Based on modern business practices and public-choice literature (Hughes, 2008), NPM had a significant effect on public administration in its heyday and enjoys continued support for its overarching principles and philosophy of public management (de Vries, 2010).

A principle problem with NPM, and one reason its support has seen such decline (with Dunleavy et al. (2006) going so far as to pronounce it "dead in the water") is that it significantly increased institutional and policy complexity while at the same time lacked robustness in the face of complex governance challenges. Other problems with NPM—whether the inefficiencies introduced through recourse to competition (Isett et al., 2010), or intolerance for public service "mistakes" resulting from innovation (Savoie, 1995)—also exist and they have likewise contributed to NPM's demise. Ultimately, it was the experience of NPM-fuelled policy catastrophes that caused the persuasive logic of NPM to dissipate (Dunleavy et al., 2006).

When an opposition politician, or newly elected leader, wishes to affect the course of government, especially if faced with what she or he perceives as an entrenched and intransigent bureaucracy, one strategy is to build a public constituency that will apply pressure for change that supports that political agenda (Peters, 1987). NPM, with its roots in the public choice literature and its emphasis on empowering citizens as "clients" or "consum-

ers", seeks to weaken and undermine entrenched bureaucracies and disrupt the status quo (Savoie, 2003). We would also suspect that the life-cycle of a politician or party (from powerless opposition outsider to governing insider) would be inversely correlated with being an open data advocate—i.e., as power and longevity increases, enthusiasm for openness will decrease (Schlesinger, 1991). Also, if governments are able to selectively release data sets, we would suspect that governments will likely be more supportive of opening data archives related to policy successes than if the data relate to ongoing policy challenges or could be used to highlight perceived policy failures.

There is, of course, no political slogan that links NPM and open data, no clear articulation connecting a new public management-inspired philosophy and the objectives of those politicians supporting the open data movement. Without such a smoking gun, we must infer from examples of politically-backed open data initiatives. While not suggesting that the following is a comprehensive survey, these brief examples will give the flavour of what some politicians wish to see from greater transparency through more open government data:

- The United Kingdom Department of Education (2011), through the Secretary of State Michael Gove, recently highlighted spending data for government-supported schools published through its website and noted that it wanted to "encourage parents and the wider public to look at the data and to compare the spending and performance of schools in their local area."

- Another example from the United Kingdom is the expanded availability of crime-related data, coupled with mapping software, which encourages citizens to investigate the security of their neighbourhood and draw inferences about the performance of their local police services. Released on February 1 2011, and promoted by the U.K. Home Secretary Theresa May, the *Police API* (http://policeapi.rkh.co.uk) lets users retrieve police incident data to the neighbourhood level in all 43 English and Welsh police forces and build "crime maps". The U.K. Policing Minister, Nick Herbert, said of the motive for the crime mapping initiative: "We are giving people the information and power

to hold their local forces to account and ensure that crime in their neighbour-hood is driven down." The Home Secretary also voiced the hope that citizens would "challenge [the police] about how issues are being dealt with." (Bear, 2011)

- YouCut is an initiative of the Republican Party majority elected to the U.S. House of Representatives in November 2010 which seeks citizens' support in cutting federal spending. The "YouCut Citizen Review of the National Science Foundation (NSF)" initiative specifically asks citizens to identify grants that represent "questionable use of taxpayer dollars". Users are directed to the National Science Foundation research grant database (an example of open data) and instructed to "look for questionable grants" using "keywords, such as: success, culture, media, games, social norm, lawyers, museum, leisure, stimulus, etc." The legislators plan to publish a report outlining the grants identified by the site's users (Day, 2010).

Kamensky (2010) argues that the Obama administration is conducting a government reform initiative that he dubs a "stealth revolution", and that this is partly driven by the President's directive on "Transparency and Open Government" (United States, The White House, 2009). The implication is that this revolution is largely centred on the "radical transparency in data" that the administration hopes will have the effect of galvanizing public support for the President's ambitious reform agenda.

Conclusion

The argument presented here is not the first skeptical view of open data; a number of views questioning the prevailing enthusiasm for open data have begun to emerge (e.g., Bannister and Connolly, 2010; Ginsberg, 2011; Gurnstein, 2011; Kaplan, 2011). But what is perhaps more challenging is attempting to disentangle the relationship involving a possible effort to revive some aspect of NPM using some of the same tools from DEG— systems which are seen to be in opposition (Dunleavy et al., 2006). On the face of it, the benefits conferred in category #3 would appear to be a key part of movement towards digital-era governance (DEG) and thus away from NPM. However, this paper presents

an argument that one aspect of open data—transparency and accountability—may be motivated by, and serve to help revive, the NPM agenda. A combination of DEG tools and NPM motivations is by no means impossible: "Another scenario might see administrative and political elites implementing conflicting NPM and DEG directions simultaneously but unselfconsciously, cross-cutting each other in counterproductive ways so as to create chiefly a policy mess" (Dunleavy et al., 2006, p.488).

Declaring a clear victor in the ongoing battle between NPM motives and DEG tools will likely require several more years of experience with both (Dunleavy and Margetts, 2010). In considering this uncertain transition, I am reminded of the evolution in thinking experienced by the late Douglas Hartle on the relationship amongst information, expertise (in that particular case, as embodied in the Office of the Auditor General (OAG)) and democratic decision making, as retold by Dobell (1999). Based on that reading, we might suspect that Hartle may have supported the idea of Web 2.0-enabled open data: "I would prefer to trust the partially informed many to the well informed few"; though, to be fair, Hartle was referring to Parliamentarians as "the many", which is at a slightly smaller scale than are accommodated in the social web. Dobell, however, notes Hartle's transformation on this issue:

Interestingly, Hartle later reversed himself on this position … far from being an instrument to promote the open parliamentary and public debate he sought, the OAG had come to act as an autonomous special interest on its own, with a mission to impose on the government of the day the conservative criteria of generally accepted accounting principles that were thought somehow to confer authoritative insight into political judgments. (1999, p. 92).

Hartle initially supported the capacity brought by the likes of an OAG, but reversed that support when it was seen that mathematical rigidity and a particular lens had usurped democratic deliberation. Likewise, we may believe ourselves to be governing in the digital era, and may wish to enlist the many eyes (Raymond, 2000) of Web 2.0-enabled public scrutiny, but find ourselves wrestling with some not-quite-dead NPM motives. And regardless of most #opendata advocates' noble motives, a revival of NPM by stealth raises the

possibility of unintended policy consequences and potential future policy catastrophes.

References

Alford, John, and Janine O'Flynn. 2009. "Making Sense of Public Value: Concepts, Critiques and Emergent Meanings." *International Journal of Public Administration* 32, no. 3/4: 171-191. http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=37154346&site=ehost-live&scope=site

Anderson, Chris. 2009. *Free: The Future of a Radical Price*. New York: Hyperion.

Australia, Minister for Finance and Deregulation. 2010. "Declaration of Open Government." http://agimo.govspace.gov.au/2010/07/16/declaration-of-open-government/

Bannister, Frank and Regina Connolly. 2010. "The Trouble with Transparency: A Critical View of Openness in eGovernment*." Internet, Politics, Policy 2010: An Impact Assessment Conference*, Oxford Internet Institute, September 2010. http://microsites.oii.ox.ac.uk/ipp2010/system/files/IPP2010_Bannister_Connolly_Paper.pdf

Bauhr, Monika, Marcia Grimes and Niklas Harring. 2010. "Seeing the State: The Implications of Transparency for Societal Accountability." *The Quality of Government Working Paper Series*. June 2010. http://www.qog.pol.gu.se/working_papers/2010_15_Bauhr_Grimes_Harring.pdf

Bear, Daniel. 2011. "Crime Maps, Policing and Fear." *The Guardian*. February 2. http://www.guardian.co.uk/commentisfree/2011/feb/02/crime-maps-policing-home-office

Benkler, Yochai. 2006. *The Wealth of Networks: How Social Production Transforms Markets and Freedom*. New Haven: Yale.

Berners-Lee, T. 2009. "The Next Web." *What's Next in Tech Session: TED Conference.* February 2009. Long Beach, California. [Video file]. Retrieved from http://www.ted.com/talks/tim_berners_lee_on_the_next_web.html

Bertot, John Carlo, Paul T. Jaeger, Sean Munson, Tom Glaisyer. 2010. "Engaging the Public in Open Government: Social Media Technology and Policy for Government Transparency." *Technology Mediated Social Participation Workshop Discussion Paper.* http://www.tmsp.umd.edu/TMSPreports_files/6.IEEE-Computer-TMSP-Government-Bertot-100817pdf.Bizer, Christian, Tom Heath, Kingsley Idehen, and Tim Berners-Lee. 2008. "Linked data on the web (LDOW2008)." *Proceeding of the 17th international conference on World Wide Web (WWW '08)*. ACM, New York 1265-1266. http://doi.acm.org/10.1145/1367497.1367760

Bonnemann, T. 2010. "Participation Hashtags We Follow." *Intelliticts: Experiments in Civic Sensemaking* (blog). http://www.intellitics.com/blog/2010/12/21/participation-hashtags-we-follow/

British Columbia. 2010. "Citizens @ The Centre: B.C. Government 2.0 (A Transformation and Technology Strategy for the BC Public Service)." Victoria, British Columbia: Government of the Province of British Columbia. http://www.gov.bc.ca/citz/citizens_engagement/gov20.pdf

Brito, Jerry. 2008 "Hack, Mash, & Peer: Crowdsourcing Government Transparency." *The

Columbia Science & Technology Law Review. Vol. 9, p. 119. http://www.stlr.org/html/volume9/brito.pdf

Canada, Parliamentary Information and Research Service. 2010. "Government 2.0 and Access to Information: 1. Recent Developments in Proactive Disclosure and Open Data in Canada." Publication No. 2010-14E (Alysia Davies and Dara Lithwick). Legal and Legislative Affairs Division, Library of Parliament. 15 April 2010. http://www2.parl.gc.ca/Content/LOP/ResearchPublications/2010-14-e.htm

Cate, F. H. 2008. "Government Data Mining: The Need for a Legal Framework." *Harvard Civil Rights and Civil Liberties Law Review*. Volume 43, no. 2, pp. 435-489. http://www.law.harvard.edu/students/orgs/crcl/vol43_2/435-490_Cate.pdf

Chadwick, Andrew. "Tweet re #Freeminers." *Twitter*. 2011-02-22. URL:http://twitter.com/#!/search/(Correct%20link)%20http%3A%2F%2Fbit.ly%2Ff2dhlH. Accessed: 2011-02-22. (Archived by WebCite® at http://www.webcitation.org/query?url=http%3A%2F%2Ftwitter.com%2F%23%21%2Fsearch%2F%28Correct%2520link%29%2520http%253A%252F%252Fbit.ly%252Ff2dhlH&date=2011-02-22).

Dahl, Robert A. 1989. *Democracy and its Critics*. New Haven: Yale Univ Press.

Day, Charles. 2010. "YouCut Citizen Review of the National Science Foundation." *Physics Today: The Dayside.* http://blogs.physicstoday.org/thedayside/2010/12/youcut-citizen-review-of-the-national-science-foundation.html

de Vries, Jouke. 2010. "Is New Public Management Really Dead?" *OECD Journal on Budgeting*, Vol. 10, no. 4 Issue: 1 pp. 1–5. http://www.oecd-ilibrary.org/governance/is-new-public-management-really-dead_budget-10-5km8xx3mp60n;jsessionid=72ki05i6e0re6.delta

Dietrich, Daniel, Jonathan Gray, Tim McNamara, Antti Poikola, Rufus Pollock, Julian Tait and Ton Zijlstra. 2010. *The Open Data Manual*. The Open Knowledge Foundation. http://opendatamanual.org/

Dillon, L. 2010. "The Value of the Long-form Canadian Census for Long-Term National and International Research." *Canadian Public Policy*, Vol. 36, no. 3, pp. 389-93. http://muse.jhu.edu/journals/canadian_public_policy/summary/v036/36.3.dillon.html

Dobell, Rodney. 1999. "Evaluation and Entitlements: Hartle's Search for Rationality in Government," pp. 79–108 in Richard M. Bird, Michael J. Trebilcock and Thomas A. Wilson, eds., *Rationality in Public Policy: Retrospect and Prospect, A Tribute to Douglas G. Hartle*. Canadian Tax Paper No. 104. Toronto: Canadian Tax Foundation, 1999.

Dobell, A. R. (Rod). 2010. "Web2.0 + Web3.0 Approaches to the Information / Decision Interface in Public Policy." *A University of Victoria MITACS Research Cluster*. http://www.whitehallpolicy.ca/mitacs/?page_id=92

Dunleavy, Patrick, Helen Margetts, Simon Bastow and Jane Tinkler. 2006. "New Public Management Is Dead—Long Live Digital-Era Governance." *Journal of Public Administration Research and Theory*, 16:467–494. http://jpart.oxfordjournals.org/content/16/3/467.abstract

Dunleavy, Patrick and Helen Margetts. 2010. "The second wave of digital era governance." In: *American Political Science Association Conference*, 4

September 2010, Washington DC, USA. (Unpublished). This version available at: http://eprints.lse.ac.uk/27684/

Eaves, David. 2010. "After the Collapse: Open Government and the Future of Civil Service." In Lathrop, Daniel and Laurel Ruma (eds). 2010. *Open Government: Collaboration, Transparency and Participation in Practice.* Sebastopol, CA: O'Reilly Media, Inc. http://oreilly.com/catalog/9780596804367

Economist. 2010. "Innovation Prizes." August 5. http://www.economist.com/node/16740639

European Commission. 2009. Ministerial Declaration on E-Government. Malmö, Sweden: European Commission. http://www.egov2009.se/wp-content/uploads/Ministerial-Declaration-on-eGovernment.pdf

European Commission. 2010. "A Digital Agenda for Europe." 52010DC0245(01) COM/2010/0245 f/2. Brussels: European Commission. http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0245:REV1:EN:HTML

Fung, Archon, Mary Graham, and David Weil. 2007. *Full Disclosure: The Perils of and Promise of Transparency*. Cambridge: Cambridge University Press.

Ginsberg, Wendy R. 2011. "The Obama Administration's Open Government Initiative: Issues for Congress." *CRS Report for Congress* 7-5700 R41361 January 28 2011. Washington, D.C.: United States Congressional Research Service http://www.fas.org/sgp/crs/secrecy/R41361.pdf

Grammel, Lars, Melanie Tory, and Margaret-Anne Storey. 2010. "How information visualization novices construct visualizations," *IEEE Transactions on Visualization and Computer Graphics* (Proc. of Information Visualization'10), in print, Nov./Dec. 2010. http://webhome.cs.uvic.ca/~mtory/publications/infovis10_grammel.pdf

Greve, Carsten. 2010. "Whatever Happened to New Public Management?" *Draft paper presented at the Danish Political Science Association Meeting* 4-5 November 2010, Panel on "New Public Management". http://www.dpsa.dk/2010%20filer/Whatever%20Happened%20to%20New%20Public%20Management%20CG.pdf

Gurstein, Michael. 2011. "Open data: Empowering the empowered or effective data use for everyone?" *First Monday*, Volume 16, Number 2 - 7 February 2011 http://www.uic.edu/htbin/cgiwrap/bin/ojs/index.php/fm/article/viewArticle/3316/2764

Hodge, R. A. and J. M. Justin Longo. 2002. "International monitoring for environmental health surveillance." *Canadian Journal of Public Health*. Volume 93, pp. s16-s23 http://www.ncbi.nlm.nih.gov/pubmed/12425170

Homburg, Vincent. 2004. "E-government and NPM: a perfect marriage?" *ICEC '04 Proceedings of the 6th International Conference on Electronic Commerce*. http://portal.acm.org/citation.cfm?id=1052220.1052289

Hood, Christopher. 1991. "A public management for all seasons?" *Public Administration, Volume* 69, no. 1, pp. 3-19. http://onlinelibrary.wiley.com/doi/10.1111/j.1467-9299.1991.tb00779.x/abstract

Hughes, Owen. 2008. "What is, or was, New Public Management?" *IRSPM XII Brisbane*. http://www.irspm2008.bus.qut.edu.au/papers/documents/new%20pdf/Hughes%20-%20What%20is%20or%20was,%20New%20Public%20Management%20-%20IRSPM2008.pdf

Isett, Kimberley R., Ines A. Mergel, Kelly LeRoux, Pamela A. Mischen, and R. Karl Rethemeyer. (2011). "Networks in Public Administration Scholarship: Understanding Where We Are and Where We Need to Go." *Journal of Public Administration Research and Theory*. Vol. 21(suppl 1): i157-i173 http://www.google.com/url?q=http%3A%2F%2Fjpart.oxfordjournals.org%2Fcontent%2F21%2Fsuppl_1%2Fi157.full

Kamensky, John M. 2010. "Obama's Performance Revolution: Changing How Government Works." *PATimes: The Newspaper of the American Society for Public Administration*. March 2010. Re-posted by the IBM Center for the Business of Government. http://www.businessofgovernment.org/brief/obamas-performance-revolution-changing-how-government-works-03-2010

Kaplan, Daniel. 2011. "Open Public Data: Then What?" *Open Knowledge Foundation Blog* January 28th and 31st, 2011 http://blog.okfn.org/2011/01/28/open-public-data-then-what-part-1/ and http://blog.okfn.org/2011/01/31/open-public-data-then-what-part-2/

Kay, Luciano. 2011. *Managing Innovation Prizes in Government*. Washington, D.C.: IBM Center for the Business of Government. http://www.businessofgovernment.org/report/managing-innovation-prizes-government

Kelso, A. 2009. "Parliament on its Knees: MPs' Expenses and the Crisis of Transparency at Westminster." *The Political Quarterly*, Vol. 80, pp. 329–338. http://onlinelibrary.wiley.com/doi/10.1111/j.1467-923X.2009.02005.x/full

Lathrop, Daniel and Laurel Ruma (eds). 2010. *Open Government: Collaboration, Transparency and Participation in Practice*. Sebastopol, CA: O'Reilly Media, Inc. http://oreilly.com/catalog/9780596804367

Liberal Party of Canada. 2010. "Opening Government to Canadians: The Liberal Open Government Initiative." http://www.liberal.ca/files/pdf/lpcopengov.pdf

Livingston, Geoff. 2010. "How Open Data Applications Are Improving Government." *Mashable Blog*, May 28. http://mashable.com/2010/05/28/open-data-government/

Melanson, Mike. 2011. "Twitter Kills the API Whitelist: What it Means for Developers & Innovation." *ReadWriteWeb*. February 11 2011. http://m.readwriteweb.com/archives/twitter_kills_the_api_whitelist_what_it_means_for.php

New Zealand, Ministry of Internal Affairs. 2009. "Government Takes Steps to Demysitify Data." http://www.beehive.govt.nz/release/government-takes-steps-demystify-data

Napoli, Philip M. and Joe Karaganis. 2010. "On making public policy with publicly available data: The case of U.S. communications policymaking." *Government Information Quarterly*. Volume 27, Issue 4, Special Issue: Open/Transparent Government, October 2010, pp. 384-391. http://www.sciencedirect.com/science/article/B6W4G-50P47MW-1/2/650448ba1d719a784c7a08159495fba5

Nichols, Russell. 2010. "Do Apps for Democracy and Other Contests Create Sustainable Applications?" *Government Technology*. July 11, 2010. http://www.govtech.com/e-government/Do-Apps-for-Democracy-and-Other.html

Noveck, Beth Simone. 2009. *Wiki Government: How Technology Can Make Government Better, Democracy Stronger and Citizens More Powerful*. Washington, D.C.: Brookings Institution Press. http://www.brookings.edu/press/Books/2009/

wikigovernment.aspx

Open Data Network. 2011. "Open data: apps for everyone? Opportunities and challenges in the re-use of public sector information." *Open Data Network Conference*. 18th February 2011, Berlin. http://opendata-network.org/2011/01/open-data-apps-for-everyone/

OECD (Organisation for Economic Co-operation and Development). 2005. *Modernizing Government: The Way Forward*. Paris: OECD. http://www.oecd.org/document/48/0,3343,en_2649_37405_35405455_1_1_1_37405,00.html

Osimo, David. 2008. "Web 2.0 in Government: Why and How?" Luxembourg: Office for Official Publications of the European Communities. ftp://ftp.jrc.es/pub/EURdoc/EURdoc/JRC45269.pdf

Peters, B. Guy. 1987. "Politicians and Bureaucrats in the Politics of Policy-Making." pp. 256-282 in Jan-Erik Lane (ed.), *Bureaucracy and Public Choice*. London: Sage.

Phuoc, Danh Le and Manfred Hauswirth. 2009. "Linked Open Data in Sensor Data Mashups." In Taylor, Kerry, Arun Ayyagari, David De Roure (editors) *Proceedings of the 2nd International Workshop on Semantic Sensor Networks (SSN09),* in conjunction with ISWC 2009, Vol-522, CEUR, 2009. http://vmserver14.nuigalway.ie/xmlui/handle/10379/1113

Poynder, Richard. 2010. "Free our data: For democracy's sake." *Open and Shut*? Monday June 28 2010. http://poynder.blogspot.com/2010/06/free-our-data-for-democracy-sake.html

Raymond, Eric Steven. 2000. *The Cathedral and the Bazaar*. Thyrsus Enterprises. http://www.catb.org/~esr/writings/cathedral-bazaar/cathedral-bazaar/

Ratti, Carlo, Dennis Frenchman, Riccardo Maria Pulselli and Sarah Williams. 2006. "Mobile Landscapes: using location data from cell phones for urban analysis." *Environment and Planning B: Planning and Design*, Volume 33, pages 727-748. http://www.environmentandplanning.com/epb/fulltext/b33/b32047.pdf

Robinson, David G., Harlan Yu, William P. Zeller and Edward W. Felten. 2009. "Government Data and the Invisible Hand." *Yale Journal of Law & Technology*, Vol. 11, p. 160. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1138083

Rogers, Simon. 2009. "MPs' expenses: what you've told us. So far." *The Guardian*. http://www.guardian.co.uk/news/datablog/2009/sep/18/mps-expenses-westminster-data-house-of-commons

Savoie, Donald J. 1995. "What is wrong with the new public management?" *Canadian Public Administration*, Volume 38: 112–121. http://www.google.com/url?q=http%3A%2F%2Fonlinelibrary.wiley.com%2Fdoi%2F10.1111%2Fj.1754-7121.1995.tb01132.x%2Fpdf&sa=D&sntz=1&usg=AFQjCNFgAaVqUk0Zjs65E8m55QbOWmcvGQ

Savoie, Donald J. 2003. *Breaking the Bargain: Public Servants, Ministers, and Parliament.* Toronto: University of Toronto Press.

Schellong, Alexander and Ekaterina Stepanets. 2011. *Unchartered Waters: The State of Open Data in Europe.* Wiesbaden, Germany: CSC. http://assets1.csc.com/de/downloads/CSC_policy_paper_series_01_2011_unchartered_waters_state_of_open_data_europe_English_2.pdf

Schlesinger, Joseph A. 1991. *Political Parties and the Winning of Office*. Ann Arbor: University of Michigan Press.

Shadbolt, N. 2010. "Why Open Government Data? Lessons from data.gov.uk." *International Semantic Web Conference (ISWC)*, 7-11th November 2010, Shanghai, China. http://eprints.ecs.soton.ac.uk/21648/

Sifry, Micah. 2010. "'You Can Be the Eyes and Ears': Barack Obama and the Wisdom of Crowds." In Lathrop, Daniel and Laurel Ruma (eds). 2010. *Open Government: Collaboration, Transparency and Participation in Practice*. Sebastopol, CA: O'Reilly Media, Inc. http://oreilly.com/catalog/9780596804367

Smistad, Rune. 2011. "#OpenData Daily." http://paper.li/cortado/1296658081

Smith, Aaron. 2010. "Government Online." *A Report of the Pew Internet & American Life Project.* http://www.pewinternet.org/Reports/2010/Government-Online.aspx

Stoker, G. 2006. "Public Value Management: A New Narrative for Networked Governance?" *American Review of Public Administration*, Volume 36, no. 1, pp. 41–57. http://arp.sagepub.com/content/36/1/41.abstract

United Kingdom, Cabinet Office. 2011. "Public Data Corporation to free up public data and drive innovation." http://www.cabinetoffice.gov.uk/news/public-data-corporation-free-public-data-and-drive-innovation

United Kingdom, Department of Education. 2011. "Schools Financial Management: Background." http://www.education.gov.uk/schools/adminandfinance/financialmanagement/a0072409/school-spending-data?cid=homepage&pla=17Jan11&type=sptlist

United States, Executive Office of the President, Office of Management and Budget. 2009. "Open Government Directive." http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-06.pdf

United States, The White House. 2009. "Memorandum for the Heads of Executive Departments and Agencies: Transparency and Open Government." http://www.whitehouse.gov/the_press_office/TransparencyandOpenGovernment/

Viégas, Fernanda and Martin Wattenberg. 2010. Case Study: Many Eyes. In Lathrop, Daniel and Laurel Ruma (eds). 2010. *Open Government: Collaboration, Transparency and Participation in Practice*. Sebastopol, CA: O'Reilly Media, Inc. http://oreilly.com/catalog/9780596804367.pdf