Political Economy of Open Data and the Geoweb: Investigating Economic Growth and Distribution from Open Data and its Impacts on the Geoweb

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Abstract

Concepts such as the geospatial web 2.0 (geoweb) and open data are tied to the underlying technologies that power them and, in turn the agendas of the firms that developed them. It is likely that a grassroots movement such as open data will also be greatly influenced by existing major players in technology, such as major software or service providers. The current trend in open data distribution by governments in Canada and abroad is poised to turn open data into an integral part of the geoweb. Open data is a relatively new topic to the discourse on the geoweb and so is treated slightly separately here. Current research on open data and the geoweb shows a gap in evaluative techniques for open data usage. It seems that data is being released without any real way of measuring its impacts. This broad topic of 'evaluating open data' is exactly what this project is addressing.

The purpose of this ongoing research is threefold. The first is to situate the geoweb in its political economy, done through a review of the literature. The second is to investigate the impacts (economic and socio-political) open data will potential have on this political economy by creating a series of indicators to measure it. The indicators will be informed by a proposed survey of governments and application developers (direct consumers of open data). Third, these same surveys will assess who is accruing the benefits of open data (e.g., to major corporations or to entrepreneurs) or whether there are any actual significant benefits being received at all. In this research we hope to develop a holistic approach to the geoweb and open data and contribute to political economy and discourse on open data.

Background and Relevance

In terms of political economy, there have been a few attempts to holistically describe the geoweb (e.g., Leszczynski, 2012). Many more reviews have analysed individual geoweb components such as Google Maps (e.g., Lee, 2010). Data accessibility is also not an entirely new concept, with geoportals and spatial data infrastructures already improving the accessibility of geospatial data (Maguire &

Longley, 2005). Open data differs slightly from data access and geoportals, since the latter two can restrict access to certain users and specific uses. Open data is "a piece of data or content is open if anyone is free to use, reuse, and redistribute it — subject only, at most, to the requirement to attribute and/or share-alike" (Open Knowledge Foundation 2012). Most open data contains a geospatial component (Ryerson 2012) and that is our focus. The hope is that opening up this geospatial data and providing the technological platforms to do so will broaden the range of users and applications.

Current rhetoric from proponents of open data proclaims that we will see an increase in efficiency and effectiveness in government as well as the generation of wealth in the private sector through new products (e.g., software applications and services) and through analysis of data. Proponents of open data initially comprised of citizen groups and advocates; among the largest promoters were local governments (Eaves, 2011). With the recent Open Government Partnership Summit attended by the G8 nations, proponents now include major governments (G8, 2013). More recently, the private sector has demonstrated interest in open data as an enabler for innovation (Lakomaa & Kallberg, 2013). It is clear that there is significant interest and belief in the potential for open data from all sectors in society. However, the current gap in research lies in evaluating these various claims like innovation and public participation.

Whereas there have been studies and the development of measures at the macro (federal) scale on the potential economic benefits of open data, there are almost none at larger geographic scales. This is why the research will focus on the creation of indicators to measure the impacts of open data. Changes in job creation, income generation, and cost avoidance for companies or governments that use open data and build applications from it are attributed to open data by its promoters but difficult to actually assess. For example, federal governments publish employment data by sector but this data is problematic to infer at a subnational or municipal level. Hence our search for direct or indirect measures.

Methods and Data

Our methods are a work in progress. Building upon and expanding further from a prior survey of local Canadian government, we plan to develop and then investigate indicators for benefits of open data. We will accomplish this through the surveying, which will be both qualitative and quantitative in nature.

Surveying will be done on open data distributors (such as civil servants in GIS departments of municipal government) as well as software developers who develop applications and platforms using open data (as these are direct or primary consumers of open data). This will be done through a questionnaire and follow-up telephone interview. The survey will involve a mixture of quantitative and qualitative questioning. Surveying will be focused in (but not limited to) Canada.

To help develop economic indicators for open data, the survey questions will look for direct impacts on immediate, or 'first order' consumers of open data, as well as for impacts down the value chain for tertiary consumers. The surveys also will be used to measure a number of the claims in the current rhetoric for the socio-political benefits of open data. The aim here is to operationalize qualitative concepts such as 'increasing democratic participation among citizens' (which is common in current discourse) from the survey questions to develop indicators to measure them.

The questions in the surveys also will build a profile of characteristics of open data distributors (government) and direct open data consumers (application developers).

Results

Research will hopefully result in the development of indicators, political, economic and social, to measure the effects of open data, as well as profiling of stakeholders in the political economy of the geoweb: government, business, nonprofit and citizen. From the survey data, we hope to identify conditions for economic growth through open data and make claims as to whether its benefits will be distributed equally. Finally, the results will hopefully allow for commenting on the impact open data will have on practices in the rest of the geoweb.

Conclusions

As this project has yet to be implemented, we have no concluding statements. The research will hopefully result in contributions to the political economy of the geoweb and the discourse on open data. Additionally, the research may be beneficial for governments that distribute open data by assisting in evaluative practices for their open data initiatives and providing insight into types of governance needed to build the movement.

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