
Open Government Data (OGD): Don't Overlook This Open Source of Information**Jacqueline Howell Nash**

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Abstract

With the trend toward open sources, librarians should keep abreast of open government data (OGD) resources on the Internet. OGD websites are ensuring that statistics and other data are visible to the public. The datasets are free to use, can be analyzed and tailored for other purposes, e.g. policy decisions. Not all statistical sites are intended to be OGD compliant, as ten principles set the standard for openness. There are benefits to OGD, but there are also some areas for concern. The paper provides an overview of the OGD context in several countries. It focuses on three Jamaican websites that have tried to bring data to the public's attention: diGJamaica, Jamaica Open Data Portal, and the Bank of Jamaica and determines the extent to which these adhere to the ten principles of openness. There is a role for librarians working with public data, which is discussed in this article. Librarians are also encouraged to seek opportunities to further their understanding of OGD and encourage their clientele to discover and use data.

Keywords: data privacy, democracy, information access, Jamaica, librarians, Open Government Data (OGD), principles of Open Government Data.

Introduction

Data are essential for sound decision-making and action-oriented research, and policy formulation should be based on empirical data. Librarians should be aware of and informed about Open government data (OGD) as another open source of information recognizing that there are benefits and risks to be derived. There is a role for librarians in disseminating government data at the local level in particular, where libraries are already operational. They can assist clients in interpreting and converting raw data into easily understood bar charts and infographics. OGD are useful as these can be analyzed and tailored for other purposes. Terms related to OGD include open data, open music, open books, open journals, open sources, open government, linked data, data mining, big data, data bank, data analytics and data scientists who are now in high demand. Citizens, taxpayers, voters and academics expect transparency and access to government data.

Ban Ki-moon, then Secretary-General of the United Nations, in his Message for World Statistics Day, 2015 called for a revolution stating that "good data and statistics are indispensable for informed decision-making by all actors in society...We need a data revolution" (United Nations, 2015, para. 1). In another case, the Jamaica Cancer Society appealed for all-island data to populate their cancer registry to ascertain the distribution, determinants, genetic, behavioural

and environmental factors correlated to cancer risk (Baines, 2018). The organization linked the availability of data to effective planning and policy formulation in cancer programmes in Jamaica. In a comment on technology and big data, Lyew-Ayee (2018) stated “lots of people’s opinions ...unless you have data you are just blabbing” (Lyew-Ayee, 2018, 39:16).

Librarians and all information professionals, including records managers, should pay keen attention to recent developments in OGD locally and internationally. Data harvesting, big data, open data, government information, digitization, access to information, privacy, transparency and the protection of personal information are all under scrutiny.

OGD has entered the fray, with many governments establishing new websites dedicated to providing statistical information from government agencies for public access and download. Statistics websites have been available for some time, but the new sites seek to adhere to recognized OGD standards. As with many innovations, there are challenges, and the quality varies widely, e.g., in many situations the data are missing, outdated or in formats that make them very difficult to use. These websites are under constant review to update and expand the number of datasets and make the data accessible for the public’s reuse.

Definition of Open Government Data

The Organization for Economic Co-operation and Development (OECD, n.d.) defines OGD as

A philosophy - and increasingly a set of policies - that promotes transparency, accountability and value creation by making government data available to all. Public bodies produce and commission huge quantities of data and information. By making their data sets available, public institutions become more transparent and accountable to citizens. By encouraging the use, reuse and free distribution of data sets, governments promote business creation and innovative, citizen-centric services (para. 1).

Government data are held by state entities, e.g., immigration offices, health departments, meteorological agencies, tax authorities and the Central Bank. Data are also collected by intergovernmental organizations for their member states, e.g., the World Trade Organization, the International Labour Organization, the International Monetary Fund, the Organization of American States, the European Union, the Economic Commission for Latin America and the

Caribbean and the Caribbean Community (CARICOM). The Internet has become the primary tool for disseminating OGD data to the public. The World Bank, the OECD and the International Development Research Centre (IDRC) are just three of the intergovernmental entities that are actively promoting OGD worldwide. Other stakeholders include the Open Data Institute, the Caribbean Open Institute, OpenDataSoft, Open Knowledge International, the Sunlight Foundation and OpenGov Week.

Ten Principles of OGD

There are ten principles of OGD which determine whether government information can be regarded as “open” (Sunlight Foundation, 2017; OpenGovData, n.d.). These are that data must be from primary sources, must be complete, timely, easy to access, machine-readable, non-discriminatory, with commonly owned or open standards (referring to the format in which the data are stored), licensed without restrictions, permanent and with no usage costs. Open data must be free to use with no registration or user identification required and reusable, e.g., for the design of computer applications. The distinctive feature of OGD is that reusing public information should be uncomplicated and this is encouraged. A Creative Commons CCO designation is one way to facilitate this, and it is important since it ensures that prospective users are certain of what they can do with the data irrespective of varying legal jurisdictions.

Careful observation will reveal that not all websites with statistics fulfil all ten principles. Many are works in progress. The following two websites hold statistical data but cannot be regarded as OGD as they do not satisfy most of the ten principles. These are the Registrar General’s Department, Jamaica (n.d.) and the Sir Arthur Lewis Institute of Social and Economic Studies (SALISES, n.d.) Derek Gordon Databank at The University of the West Indies, Mona. The births, deaths, and marriages data on the Registrar General site (n.d.) are not easily machine-readable because it is in portable document format (pdf) format. The data at the Derek Gordon databank do not adhere to the principle of timeliness. These two websites would not be regarded as open, and this is understandable as they predate the OGD movement.

On the ILOSTAT (2020) website, labour force statistics from countries of the world can easily be downloaded in Excel, CSV and SDMX format as consideration is given to ease of physical and electronic access. The data are as complete as possible, given that data are gleaned

from all over the world. However, a statement on Permissions to Reproduce ILO publications and Data restricts reuse of the data for commercial purposes and a formal request is required (International Labour Organization, 2021). These three websites cannot be regarded as open as they do not comply with open principles.

Overview of OGD in Selected Jurisdictions

A principle of OGD is whether or not data are freely accessible without a requirement for user registration or identification. However, not all websites which focus on statistics qualify as OGD. The following are official, national OGD sites. The Government of India (n.d.-b) official OGD Platform is colourful and eye-catching, with many datasets and visualizations. Under the section, “Sectors” the viewer is asked to register. Prospective viewers must state their purpose for downloading the resource, indicating whether they will be using the data for commercial or non-commercial purposes and whether for academia, research and development, business, journalistic, government use or otherwise. This is not in keeping with OGD.

Another requirement is the necessity for a license and the nature of that license. The Government of Australia (n.d.) site, data.gov.au, declares a Creative Commons Attribution (Creative Commons, n.d.) which specifically indicates that the reader is free to copy and redistribute the data, remix, transform, and build upon the material for any purpose, even commercially but must give credit and indicate if any changes have been made (para. 6). For the Government of India (n.d.-a) OGD platform, the following is permissible,

All users are provided a worldwide, royalty-free, non-exclusive license to use, adapt, publish (either in original, or in adapted and/or derivative forms), translate, display, add value, and create derivative works (including products and services), for all lawful commercial and non-commercial purposes, and for the duration of existence of such rights over the data or information (para. 5).

The OGD site of the United States of America, Data.gov (n.d.), has over 233,111 datasets from various sources, primarily from the Federal Government, state governments, local governments, cities and universities. A large number of datasets reflect a wide availability of resources to ensure an informed public. The site adheres to the ten principles of OGD (Sunlight Foundation, 2017), e.g., licensing information is available under Privacy and Website Policies,

open standard options are given, and the data are recent. Perhaps the strength of this OGD site is the emphasis that is placed on the importance of public access and use of the data.

The St. Lucia OGD website has 78 datasets from 16 organizations arranged under 13 subheadings, including Urban Planning, Public Safety, Transportation and Tourism (Government of St. Lucia, n.d.). Data are available on the number of emergency shelters – 191 in 2018. Information on forest reserves indicates that there are over 18,000 acres in reserve in St. Lucia. OGD websites can be a treasure chest of scientific and unique information. Generally, OGD websites vary widely in design, and there is no uniformity in how the pages are designed. The priority for many international OGD sites is to upload the data and not to focus on uniformity or ease of locating data.

Benefits of Open Government Data

Possible benefits of OGD have been identified in a study by Zuiderwijk, Shinde and Janssen (2018), including better discoverability of data, improved public engagement and participation, transparency, greater accountability, openness, trust, anti-corruption, innovation and even economic growth. Other benefits include increased scrutiny of information released by the government, increased empowerment of the public, improved policymaking, better efficiency of government and the ability to reuse data. These benefits are all highly desirable.

The Caribbean Open Institute (n.d.) assessed the readiness of Jamaica for OGD and found that demand was high but barriers existed. McNaughton (2014) used a meta-analysis of existing international studies to calculate, conservatively, that OGD has the potential to benefit the Jamaican economy by over JA\$30 billion (p. 2). The breakdown includes between JA\$2.2 billion and JA\$2.9 billion through the education sector (p. 7), JA\$10 billion through the agricultural sector (pp. 9 - 10) and between JA\$ 2.4 and JA\$ 23.7 billion through the tourism sector (pp. 10 -11). Evidently, a significant motivation for the promotion of OGD is its potential to be a catalyst for economic growth.

Role of the Librarian

OGD is of relevance to librarianship. Librarians should approach the debate on the benefits of OGD from their professional standpoint of discoverability, accessibility, organization,

completeness, privacy, intellectual freedom, preservation, relevance, social responsibility and democracy. “Data is everywhere, but it is only as useful and valuable when it can be searched, located, retrieved, organized, analyzed, and archived” (Gordon-Murnane, 2015, p. 22). In the interest of democracy, it is the librarian’s responsibility and civic duty to be informed and to inform. In the face of every public debate or controversy, the question should be, “What does the data suggest?” Librarians should be data-conscious and search to find sources of government statistics. There must be interest on the part of librarians and a general understanding of how governments are structured. An OGD site is the better source for data and is to be preferred over other statistical sites. The reference librarian in the public library must be ready to source data. The academic librarian can advise students to support their arguments and debates with empirical data. The government librarian should ensure that data are being collected in a standardized format over a long period and archived for perpetuity despite webpage redesigns. In this way, the librarian ensures that clients are not “just blabbing” but using credible information (Lyew-Ayee, 2018, 39:16).

New Opportunities for Libraries

For Bertot, Butler and Travis (2014), the question is not whether or not libraries should get involved in disseminating OGD at the community level as public libraries are essentially community-based but, instead, how to proceed. Libraries can build capacity within their organizations, provide the public with expertise, and hold events conducive to disseminating government data. Data must be relevant to the peculiar needs of each community, e.g., weather statistics, mosquito counts or literacy rates. Okamoto (2016) addressed three facets of OGD, pointing to new roles for the librarian, e.g., in research assistance, uploading and managing data, publicizing data through social media, newsletters and holding data literacy events. She highlighted privacy concerns and concluded that “OGD presents a new opportunity for libraries to help users locate open datasets, further open access goals, and engage the public around data privacy and data literacy issues. Several libraries are already engaging with OGD by including data sets in catalog searches, and even administering OGD portals” (p.11).

Dissemination of OGD

At the public library, the librarians, aware that government statistical data belong to the public, can include such data in their exhibitions and create online infographics. They can encourage clients to download statistics that may be of public interest, e.g., the incidence of road accidents or success rates in primary-level examinations. One pertinent example is the distribution of the critical votes that helped determine the fate of the West Indies Federation. Detailed statistics from the September 19, 1961 referendum, “Should Jamaica Remain in the Federation of the West Indies?” (Electoral Commission of Jamaica, n.d.) indicate 217,319 voting “yes” but 256,261 voting “no” with a 61.51% voter turn-out. In most of the constituencies of the parishes of Kingston and St. Andrew, the vote was predominantly “yes”, but the nation as a whole voted “no.” The constituency results give a more textured picture of the 45 constituencies with 14 voting to remain in the Federation.

Metadata

Librarians will also be aware of the importance of the metadata. These can be described as category headings that indicate the coverage of the data. If inappropriate metadata is utilized, information can remain hidden, which is contrary to the purpose of OGD. If correct metadata is used, it can act as a signpost directing the public to worthwhile information. Metadata organizes data, and organization is one of the hallmarks of the library profession. Hare (2016) emphasizes that the metadata will improve discoverability and interoperability between datasets. Primary metadata fields are title, description, theme, keywords, license and producer. Metadata can also include creation date, language, contributor and format.

Visualizations

Datasets can be difficult to interpret at times for the uninitiated. The librarian will remember the usefulness of visualizations, infographics and poster presentations as the use of colour, graphs, and images can do a great deal to facilitate the interpretation of data as was done by the BBC (2018) to highlight hardships being experienced in Iran. Graves and Hendler (2013) support the use of visualizations to communicate OGD information. Popular software, e.g.,

spreadsheet software provides features for quickly converting raw data to a pie chart, line graph or bar chart.

An excellent use of visualization is found on the Caribbean site, the Statistical Institute of Belize (2021), which uses visuals that are eye-catching and convey information succinctly and effectively. There are several attractive infographics, and one example is “Languages Spoken in Belize”, which illustrates that 10.5% of the population can speak Mayan and over a half speak Spanish. Another infographic, “Citrus Industry”, shows that most of their citrus exports – 31% goes to Jamaica. According to the “National Housing Characteristics” infographic 3 in 5 own the dwelling they live in. The “Education in Belize infographic” states that 16.2% had completed tertiary education in the 2019/2017 school year. It is evident that the goal is to demystify government statistics. An image can make an immediate impression that would take several minutes to decipher from reading rows and columns of digits.

Assessing Jamaica Websites for OGD Compliance

Not everything that looks like OGD is in fact “open.” The librarian should ask if the website fulfils all ten principles for OGD. If the site does not adhere to all ten principles, this does not mean that it is useless. This simply presents challenges, but these barriers are surmountable.

The following Jamaican websites are notable because they represent efforts to deliver Jamaica government information to the public. Not all meet the ten principles of OGD, but they are commendable for their efforts to inform the public. The first originates in the private sector, and two others are from public sector bodies.

1. diGJamaica, hosted by an online newspaper
2. *Jamaica Open Data* Portal, the official OGD site
3. Bank of Jamaica, the Central Bank.

diGJamaica, The Gleaner Newspaper

The Gleaner a private sector, non-government newspaper dating back to the Emancipation of slavery 1834, produces *diGJamaica* - a website hosted on the online version of the newspaper (Gleaner, n.d). The “diG” represents digital information from *The Gleaner*. Its purpose is to be a source of useful information about Jamaica. Started in 2012, *diGJamaica* includes sections on data

and economic indicators. The data section provides census information, murders per parish, inflation rates, information on the Jamaica Stock Exchange, Jamaica's experience with the International Monetary Fund, and more. Also included is information on agriculture, education and training, environmental protection, project financing, health, infrastructure, international donors, justice, and public education. Data are sourced by pulling information from that newspaper's archives, reports, the newsroom and through the Jamaica's *Access to Information Act of 2004*. Raw datasets are not evident, but there are numerous pie charts and bar charts. The data are in dire need of updating, and this is impacting its usefulness. This site was not meant to be OGD, and of the ten principles, the only two which currently apply are non-discrimination and no usage costs.

Jamaica Open Data Portal

Government of Jamaica (n.d.) open data portal was launched in June 2016 and has approximately 57 datasets on the economy, health, environment, education and other subjects in many formats namely, CSV, PDF, XLS, DOCX, PNG, XLSX and ZIP. This site holds the responsibility as the primary OGD site for Jamaica. Examples of data that can be retrieved include data on "Crashes by Driver Sex and Vehicle Type". Metadata for this dataset include publisher, modified date, release date, frequency, identifier, spatial/geographical coverage area, temporal coverage, license (Open Data Commons Open Database License, ODbL), granularity and author. Most of the ten principles are met except for timeliness and completeness. A strong foundation has been laid, but the OGD site needs to be updated and expanded.

Bank of Jamaica

On the Bank of Jamaica's website, two sections focus on data. These are the "Statistics" section and the "National Summary Data Page (NSDP) –Jamaica" (Bank of Jamaica, n.d.-a, n.d.-b, n.d.-c). The data are extensive and available on every aspect of the Central Bank's operations. The statistics section has a plethora of data in spreadsheet format on commercial banks, interest rates, public finance and debt, prices and production, instalment credit and housing. Information is also disseminated through pdf publication and regularly in newspapers. The information is up-to-date. With reference to the ten principles of open data (Sunlight Foundation, 2017) the data are

timely, where the bank is not the primary source there is a direct link to that source, data are machine-readable and accessible. However, it does not conform to the principle of commonly owned or open standards as the spreadsheet software used to disseminate the figures, although very popular, is not open source but has to be purchased.

The NSDP can also be consulted for information not only from the *Bank of Jamaica* but also from the *Statistical Institute of Jamaica* and the *Ministry of Finance and the Public Service*. These pages represent Jamaica's input in the *International Monetary Fund's General Data Dissemination System (e-GDDS)*. Regarding the principle of license disclosure, there are restrictions limiting reuse to personal and non-commercial purposes (International Monetary Fund, n.d.).

The data on the Bank of Jamaica (n.d.-b) Statistics page is up-to-date, relevant, accessible and is extremely useful to researchers, public servants and tertiary-level students.

Areas of Concern - Global Perspectives

Librarians should be aware that researchers have recognized several areas of concern regarding OGD. Privacy concerns are widespread, but for the vast number of datasets, privacy should not be a concern as individuals or situations are not identifiable. It should not be assumed that this will always be the case. There are many examples of sensitive information on OGD sites. Information is available on "Accidental drug-related deaths, 2012-2020" for the state of Connecticut, USA (Connecticut Open Data, 2021). Information on each death is given including age, race, place of death, e.g., hospital, city of residence and names of drugs.

The open data portal of the Government of Kenya (2017) provides data on HIV testing and positivity rate by month from 2012 - 2015 in Nakuru County. In January 2012 the HIV positivity rate was 16% when 3,263 persons were tested and had declined by December 2015 to 2.1% when 41,842 were tested. In March 2018, Israel announced that it would create a massive national health database and make the data available to researchers and startups (Solomon, 2018). As expected, there are serious concerns about privacy protection for all participants.

The International Federation of Library Associations and Institutions, IFLA (2013) warned that

The boundaries of privacy and data protection will be redefined. Expanding datasets held by governments and companies will support the advanced profiling of individuals, while sophisticated methods of monitoring and filtering communications data will make tracking those individuals cheaper and easier. Serious consequences for individual privacy and trust in the online world could be experienced. (IFLA, 2013, [p. 3]).

Since that report, technological innovations and refinement have worsened the state of affairs, strengthening IFLA's position. Biometrics, ransomware, street cameras, social media flaws, smart phones have all made it easier to cross the boundaries of personal privacy. Offensive technological features are usually hidden from public view but once exposed, a healthy public debate ensues.

There are other concerns. The *State of Open Government Data in 2017* (Lämmerhirt, Rubinstein, & Montiel, 2017) identified three major obstacles restricting open data use. Specifically, data are hard to find, not user-friendly and not openly licensed (pp. 3 – 9). In the United Kingdom, Martin (2015) identified five additional barriers, including low demand for OGD (para. 4), government agencies acting as barriers (para. 6), scarce resources (para. 7) and differences in the philosophical motivation of OGD stakeholders (para. 8).

Kucera and Chlapek (2014) identified the following areas of concern:

- Publication of data may be against the law or trespasses on someone's rights or freedoms
- The data may impact on trade secrets that should be protected
- Data may affect privacy
- There might be a risk, e.g., terrorism, to the security of infrastructure (power plants, dams, transmitters, etc.) (p. 35).

In fact, the USA OGD site (United States of America, Data.gov., [2020]) states under "Public Information" that "All datasets accessed through Data.gov are confined to public information and must not contain National Security information as defined by statute and/or Executive Order, or other information/data that is protected by other statute, practice, or legal precedent. The supplying Department/Agency is required to maintain currency with public disclosure requirements."

Other concerns that were rated of medium risk were the publication of inaccurate data, possible misinterpretation of the data, the possibility that decisions may be made based on poor quality data and the reality that some data may be outdated (Zuiderwijk & Janssen, 2014).

The Way Forward for Librarians

“Lift the veil!” This was the news headline insisting that taxpayers have a right to access the financial information of the regional entity CARICOM. “For the CARICOM Secretariat to flatly reject the fundamental principles of transparency and accountability is...unacceptable” (Walker, 2018, para. 6). Librarians have to be aware of similar discussions on data and public data in particular and to help to lift those veils that are concealing information. Library users can be encouraged to search for statistics to support their interests. Librarians can seek opportunities to further their understanding of OGD. The following resources are recommended for librarians:

- *Open Government Data* by Tauberer (2014) and *Open Data Handbook* by Open Knowledge International (2012)
- YouTube video, “Open data readiness assessment underway in Antigua” (Government of Antigua Barbuda, 2013) which provides a quick introduction on the reuse of raw data for the benefit of citizens and taxpayers
- Explore online professional development courses on the topic of OGD.

The gate is wide open for future work on OGD and its impact on policy, programmes, legislation, and democracy in the Caribbean. OGD is valued when it is of use to the public and when the data are up-to-date and relevant.

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