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Management of Open Government Data in Nigeria Academic Libraries: Status, Challenges and Strategies

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Abstract:

Globally, democratic principles revolve around transparency, accountability and greater involvement of the citizens in government programmes and activities for sustainable development. This can only be achieved if the people have access to government information and this is why agitations for freedom of information continue to heighten. Open government data (OGD) play major roles in democratization of information and a propeller of transparency and open governance. This paper explores management of open government data in Nigeria by examination of selected government websites in Nigeria in order to determine the status of OGD in Nigeria. Indications reveal a country with interest in implementing OGD, but there are several challenges that must be resolved. The paper provides strategies that will assist in mitigating these challenges and concludes that the global rating of the country will improve with full implementation of OGD in the country.

Keywords: Open government data, open government, open access, government information, Nigeria.

1. Introduction

The major ingredients of democracy are citizens' active participation and transparency of leaders in the activities of government through open governance. Agitations for democratic culture globally is often anchored on human rights which entails freedom of expression, rights to government information and ability to use these rights for sustainable socio-economic and political development. Since the return to democratic government in Nigeria in 1999, citizens have been deeply engaging government for good leadership anchored in open governance. An interesting way of achieving open government is making government data available to the people (that is freedom of the citizen to access government information). Fortunately, Nigeria enacted Freedom of Information Act in 2011, (Federal Republic of Nigeria 2011) and by implication, Nigeria government is expected to run an open government

driven by open government data (OGD) which will facilitate wider access to public sector information (PSI).

Open data is defined by The International Open Data Charter (ODC) as “publicly available data that can be universally and readily accessed, used and redistributed free of charge. It is structured for usability and computability” (Van-Belle et.al. 2018). But Attard, Orlandi, Scerri, & Auer, (2015: 402) defined Open Government Data as “government-related data that is made open to the public.” This appears similar to that of Economic Commission for Africa (2017) which described open government data as “any government-produced or government-commissioned data that are freely available and publicly accessible.” Perhaps, a more elaborate definition is that provided by Janssen & Helbig (2015) and Jetzet (2016) who observed that such data is multi-dimensional providing valuable information for socio-economic and technological development of the country. Global interest in OGD began as a result of Open Government movement within the first decade of 21st century (Bauer & Kaltenbock 2012). Open government and open government are interrelated because it is through the availability of open government data that a country can achieve open government. Fig. 1 provides a clearer understanding of the two concepts.

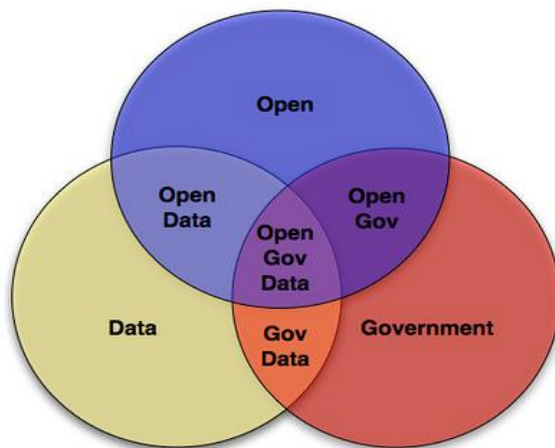


Fig 1: Venn diagram of OGD

Source: www.flickr.com/photos/notbrucelee/5512318395/.

Two major events that accentuated global concern in OGD were President Obama’s Memorandum on Transparency and Open Government in 2009 (Administration of Barack Obama, 2009); and the launching of national data portal (data.gov.uk) in The United Kingdom in January 2010 (National Audit Office, 2012). Consequently, there has been an increasing interest in providing access to open government data particularly in the areas of transportation, budgeting, agricultural, and public health agencies (Yan & Weber 2018). The use of OGD in sharing government data for re-use is increasingly adopted by many countries all over the world. A report by World Wide Web Foundation (2015) revealed that 55% of 92 countries across the world already have open data initiative. The adoption of OGD is expected to continue increasing because of the potential benefits which Hassan & Twinomurinzi (2018) summarized into three namely; transparency, socio-economic values and participatory governance.

Interest in open government in Africa made the Economic Commission for Africa (ECA) to commission a study on the policy, legal and technical requirements for open government in Africa with the aim of providing the best approach to assist African countries to improve transparency and unlock its social and economic potentials (Economic

Commission for Africa, 2013). Another report (Van-Belle, Lämmerhirt, Iglesias, Mungai, Nuhu, Hlabano, Nesh-Nash, Chaudhary 2018) highlighted opportunities open government data offers Africa towards Africa Union's Agenda 2063 targets; and the 2030 Agenda for Sustainable Development Goals (SDGs) particularly in the present information and knowledge economy.

The use of open government data in research and the industries has also been reported in number of literature (Bright, Margetts, Wang & Hale 2015; Zuiderwijk, Marijn & Yogesh 2015; Safarov, Meijer & Grimmelikhuijsen, 2017; Young & Yan, 2017). However, Bright et. al. (2015) in their examination of the use of open government data in the United Kingdom found that many of the data have very low download rate. In their study in the use of open government data for scientific research using peer-reviewed publications, Safarov et. al (2017) also found low utilization of OGD, but observed their potentials in validation of data for scholarly research. It appears that similar trend is obtainable in African countries as indicated in the report of Van-Belle et al. (2018) which found a near lack of interest on OGD among the academia. Recent developments in other parts of the world however, show an upward trend in the use of open government data (Yan & Weber 2018). The findings indicate that United Kingdom, the United States, India and Kenya have the most research OGD globally, while the researched subject fields are Medicine, Environmental Sciences and Social Sciences.

With the growth of electronic governance, government data continue to emerge daily in several government websites. But little is known about the status of these data in Nigeria; their management for research and scholarly communication; and likely management challenges – as major studies on OGD in Africa did not cover Nigeria (see Economic Commission for Africa (2017) & Van-Belle et. al. 2018). The purpose of this paper therefore, is to examine open government data in Nigeria and management strategies academic libraries could deploy to create awareness and access for researchers. The research will mainly adopt document analysis of some government websites in Nigeria to examine their status in terms of openness and accessibility; and then deploy review of literature to articulate strategies of managing them and challenges therein. The paper will be structured under the following headings for robust and elaborate discussions:

- a. Introduction
- b. Status of open government data in Nigeria
- c. Challenges of managing open government data
- d. Strategies for management of open government data in Nigeria academic libraries
- e. Conclusion.

2. Status of open government data in Nigeria

Interest in open government data is heightened by its critical contribution in national development and impact in transparency governance. The fruits of such open governance are opportunities for speedy economic growth (Jetzek, Avital, & Bjorn-Andersen, 2012), public accountability (Viscusi, Spahiu, Maurino, & Batini, 2014; Worthy, 2015); contributions to social inclusion (World Wide Web Foundation 2015) job creation and growth of knowledge economy (Carrara, Chan, Fisher & van Steebergen 2015). Above all, OGD facilitates the democratization of access and use of information which are key ingredients of sustainable development. As often obtainable in many countries, it the responsibility of Statistical Office to collate national data and therefore in Nigeria, the National Bureau of Statistics is the

government agency for the collection of statistical data for the country. Indication shows that Nigeria is interested in growing open government data, but yet to provide a policy framework for guideline except a draft that was articulated in 2014 (Federal Government of Nigeria 2014). However, a good development in OGD in Nigeria is the creation of online data portal for aggregation of OGD in Nigeria so that researchers and other people interested can have access to such information (see Nigeria Data Portal <http://nigeria.opendataforafrica.org/>). The portal has data on each of the 36 states in Nigeria and Abuja the Federal capital and covers many key areas of national development such as health, agriculture, education, trade and investment, women and child issues, demography among others. But a major issue of the portal is updating of the data. For instance, the latest population data in the portal was 2006 when Nigeria last conducted a census survey. The expectation is that the National Population Commission would regularly provide up-date to the portal through death and birth data, but it is even surprising that such update is absence in the website of National Population Commission as at the time of this study (see <http://population.gov.ng/>).

Other government agencies also maintain website that provide open government data for the interest of the citizens. A good example is National Bureau of Statistics (<https://nigerianstat.gov.ng/>) which provides open government data on key national development indicators. The website is also has a link to other government agencies one may wish to visit for further information. Other government website with open government data are provided in the table 1.

Table 1: Some Government Websites in Nigeria with OGD

Name of Government Agency	Websites	Remarks
Budget and National Planning	http://www.nationalplanning.gov.ng	Budget proposal and breakdown. Real data not available
Central Bank of Nigeria	https://www.cbn.gov.ng/	Data on GDP, inflation and other financial issues
Economic and Financial Crime Commission	http://www.efccnigeria.org/efcc/	Data on convictions. No data on corruption index
Independent National Electoral Commission	https://www.inecnigeria.org/	Data on only recent election results
National Bureau of Statistics	https://nigerianstat.gov.ng/	Robust data all regions of Nigeria
National Population Commission	http://population.gov.ng	No active website at the time of study
Nigeria National Petroleum Corporation	https://www.nnpcgroup.com/Pages/Home.aspx	Data on oil and gas production and trade
Nigeria Stock Exchange	http://www.nse.com.ng/	Robust data on financial market

Indications from the table above show that of the eight government agencies, only robust data are available in National Bureau of statistics Central Bank of Nigeria and Nigeria Stock Exchange. Surprisingly, Economic and Financial Crime Commission (EFCC) which is responsible for investigation and prosecution of financial crimes provides data on number of convictions. One expects to see data on recovered assets among other related issues. It is also a source of worry that National Population Commission has no active website considering its critical roles in over all national development.

3. Challenges of OGD in Nigeria

A major challenge of management and utilization of open government data all over the world is lack of awareness of their existence. This has been reported in the study conducted by Martin, Helbig & Birkhead, (2015) using survey and focus group discussion. Thus the study of Kvamsdal (2017) reveals underdeveloped foci for OGD and lack of lack theoretical generalizability and actionable findings which are indications of poor awareness of OGD among researchers. The study conducted by Kucera (2018) using eleven research papers associated with barriers of open government data classified all the fifty identified barriers into ten which includes among others barriers related to metadata availability, legislation, management, funding, policy formulations and implementation, knowledge and skills; and technological challenges. Another problem of OGD generally in Africa is lack of true commitment for transparency and open government. This is evidence in poor availability of policy framework for open government data. Van-Belle et. al. (2018) reported that majority of the available policy framework are usually in a draft stage for years and yet to be published officially. Examples of such countries are Nigeria, Rwanda, Tanzania and Uganda. Other challenges of OGD as identified by Nayek (2018) include lack of metadata standards for better discoverability and interoperability as published data often do not relate with data expected by users. These challenges are global challenges but there are challenges that are localized particularly in Africa with special reference to Nigeria and these can be summarized as follow:

3.1. Poor ICT infrastructure to Support Digital Open Government Data

The reality is that open implementation of OGD is dependent on robust and efficient ICT infrastructure and regular power supply. Unfortunately, Nigeria still suffer from technological challenges arising from poor and irregular internet connectivity where majority of citizen and even government organizations do not have access to the Internet (Ezema 2013). Added to this is the nature of public power supply in the country where installed capacity for power generation is 12, 522 MW but only 3,384 MW is generated to serve over 200 million people (USAID 2019). Certainly, this cannot support open government data as so many of the government agencies may not have the capacity to handle major issues required in collection, organization and dissemination of government data.

3.2. Lack of skilled personnel for OGD

A related challenge is the paucity of skilled manpower for organization and management of OGD in Nigeria. Though, there has been relative improvement in growing skilled manpower that can use and maintain technological facilities that drive information (Ezema, Ugwuanyi & Ugwu 2014), there is still area that require further development of man power particularly in data mining, data curation, creation of metadata and advanced information storage and retrieval which are very critical in open government data.

3.3. Attitude towards transparency and open government data

Before the agitation for freedom of information in many African countries including Nigeria, government programmes and activities are often shrouded in secrecy (Asogwa and Ezema 2017) and this culture is still prevalent in many government agencies even with legislation for freedom of information in Nigeria. Consequently, many government agencies and establishment find it difficult to openly publish government data. This is often the case with data that are likely to expose corrupt practices among government officials. This lack of transparency usually limits the potentials of OGD in socio-economic development of the country.

3.4. Policy framework for open government data

As has been observed, Nigeria's policy framework on OGD is still in a draft stage and therefore, there is no legal guideline for its implementation. It is surprising that since five years after the draft, nothing has been done with its publications for purpose of implementing the policy framework. This is a serious challenge as nobody can be sanctioned in case of breach of the policy.

4. Strategies for Managing Open Government Data in Nigeria

In Africa, Nigeria remains one of the countries that is yet to fully implement open government data. The number of governments in the region releasing their national data catalogues keeps increasing, with eight out of every 10 countries maintaining a reference catalogue of some kind (Van-Belle et al. 2018). For Nigeria to join other countries in Africa that has fully implemented OGD, the following strategies are hereby proposed:

4.1. Creation of Awareness among Academics on OGD

Open government data obviously is critical in research and scholarship but a major impediment to their utilization is lack of awareness of their existence by many academics (Martin, Helbig & Birkhead, 2015; Van-Belle et. al. 2018). Consequently, the need for sensitization of researchers and other academics about open government data is very imperative. As major information providers to researchers and scholars academic and research libraries are better positioned to handle this responsibility through training workshops within the universities and research institutes. In addition, online selective dissemination of information where librarians provides links of government data to researchers in accordance with their research profiles will likely stimulate the interest of researchers on OGD.

4.2. Linking of OGD websites to Library Websites

Library websites are increasingly used by researchers to access information and linking the open government data websites to library websites would an effective means of creating access to OGD. In doing this, highly skilled librarians who understand the information needs of the researchers in their institutions are to be engaged.

4.3. Policy framework for OGD in Nigeria

Implementation of open government data is still evolving in Africa generally and Nigeria in particular. Though Nigeria has OGD draft policy, it is yet to be published and adopted as a policy framework and until this is done, there is no authoritative guideline for OGD in the country. Such policy is very important as issues such as legislations, action plan, sanctions for violation of the law and the kind of government data that must be made freely available will be well articulated.

4.4. Development of Standard metadata for OGD

Access to open government data is often difficult because a large proportion of the data are uploaded without any metadata for effective retrieval; and some others are uploaded without a standardized metadata. It is therefore, important for government agencies to seek the services of librarians and other information professional skilled in creation and assigning of metadata to assist in providing metadata for every open government data uploaded for

public consumption. For the standardization of OGD metadata, the Nigeria Library Association has a major role to play. There is a need to form a team of skilled experts to develop a standard for metadata description of open government data in Nigeria.

4.5. Training of Librarians on Access and Utilization of OGD

Academic and research libraries are expected to up-date the skills and proficiency of their staff regularly. Since OGD is still at its teething stage in Nigeria, such training should focus on skills in the area so that the required skilled personnel are developed. Apart from organizing national conferences and workshops, it is also important to send librarians to countries that have implemented OGD for “train the trainer” programmes. In addition to this, courses in open access should be integrated in the curriculum of library schools in Nigeria growing human capital that will take up the challenges of OGD implementation in the country.

4.6. Data Mining and Archiving

To ensure greater access to open government data in Nigeria, academic and research libraries must engage their skilled staff in data mining and archiving of OGD for enhanced information services delivery to their readers. Downloaded open government data are to be archived in the library websites and also in DVD which should be remotely made available to researchers and other library users.

4.7. Creation of OGD Repositories in Nigeria

A major challenge of open government data in Nigeria is aggregation of all open data from different government agencies for effective webometric control. Nigeria has many government ministries, agencies and organizations which generate data regularly. Part of the policy framework for OGD is articulation of how data generated by these government bodies are to be organized into one body. Nigeria Data Portal <http://nigeria.opendataforafrica.org/> which currently provide a seemingly webometric control in their portal has very few organization linked to their websites. There is a need to establish a body with legal mandate to collate, organize and manage all open government data to ensure global visibility and accessibility to all citizens of the country.

Conclusion

It appears that there is genuine interest in implementation of open government data in Nigeria given the desire of the citizens to participate actively in the programmes and activities of government and also ensure transparent accountability from elected and appointed officials. The attempts by a few government agencies and organizations in making government data freely available on their websites are indications that the agitations for transparency and accountability (which are the hallmark of civil democracy) are perceived outcomes of democratic culture in Nigeria. However, available evidences show that a greater proportion of government agencies are yet to provide OGD considering information available in their websites. Part of the reason perhaps is the inability of government to publish the draft policy guidelines for open government data since 2014 when it was drafted. This is an indication of lack of political will to the full implementation of OGD in Nigeria. In addition to this, other related challenges such as poor ICT infrastructure, dearth of highly skilled personnel, lack of awareness of availability OGD and lack of standard metadata descriptions equally limit the ability of government agencies to key into OGD movement. The global rating of any government is dependent on level of transparency and accountability which are often assessed by free availability of open government data to the general public. This paper

has been able to articulate strategies to mitigate these identified challenges against the full implementation and management of OGD in Nigeria.

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