

Conference Talk

Open Data Empowerment: A weapon to fight the educational barriers imposed by socioeconomic factors in developing countries

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Summary

A data revolution is key for evolution, education and progress. Through the years, we have seen hundreds of examples on how Open Data can be used to improve society as a whole. Sadly, a small quantity of these projects come from developing countries. This is mostly caused by the lack of empowerment on such subject, and could be changed by building strong strategies that empower on how to work with, and produce Open Data. There are significant challenges to creating and using open data in developing countries, but there are also several success stories that have fought to overcome these barriers.

Open Data and Its benefits

The Open Data handbook defines Open Data as data that can be freely used, re-used and redistributed by anyone, subject only, at most, to the requirement to attribute and share alike. This means that the data must be available and accessible to anyone, under terms that allows its re-use, redistribution and universal participation.

There are multiple benefits that open data brings to society. Among these benefits we have:

- Access to knowledge and information that contributes to the economic development of countries, social welfare, collaboration, innovation and transparency.
- Access to data that could improve the quality and reduce unnecessary costs for governments and companies in the public and private sector.
- Improved efficiency of government services, transparency, and democratic control.
- Better health conditions for individuals and prediction of future public health outbreaks.

Challenges

There are several challenges to making data openly available worldwide, but these challenges are even greater in developing countries. This is primarily caused by the lack of interest of their governments, social inequality, discrimination and lack of education in the area.

Data Quality and Open Data Supply and Demand

Developing nations suffer from a significant lack of awareness on Open Data and its benefits. Most of the time, the datasets available are not the ones that are demanded the most. Politically sensitive data is unlikely to be published without civil society pressure, and sometimes civil society pressure is not present at all. If there is no demand for data organizations don't feel a need to publish it. When they do make it public, it is often in a

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format that does not allow reuse and redistribution. Lack of demand leads to poor data quality, and poor data quality leads to lack of open data initiatives and projects.

Innovation and Interconnectivity

The presence of projects that search for innovation has been essential when it comes to promoting Open Data. There are many organizations that incentive their citizens to come up with new ideas that use data for development and growth. Lack of awareness and limited innovation in developing projects, weak network connectivity, and reduced access to technology are barriers that limit the work that can be done with data.

Technical Skills

In some cases, the skills necessary to allow clean, understandable and reusable data to be published are not present. This leads to low quality and quantity of released data. This challenge, however, could be easily overcome through strategic education, advocacy and capacity building.

Political Barriers

In the developed world, open data initiatives are often held by government themselves and are focused on transparency, accountability and citizen participation. Most developing countries have a history of corruption, lack of transparency and hurtful governments. Closed governments are often obstacles for transparency; Instead of promoting civic society participation and openness, they harm it. Because of the political barriers present in the developing world, civil society focuses in using open data for socioeconomic growth and development. Inclusion of the roles that open data plays in achieving transparency and democracy urge to be implemented. Even though civil society projects have numerously increased in the last years, we still have a long way to go.

Future Strategies and Success Stories

Success stories of projects using Open Data to overcome the challenges mentioned above are important to encourage participants to come up with new ideas. The Center for Open Data Enterprise has an interactive map¹ showcasing many of these projects. It is evident that most of the existing projects work in civil society engagement, democracy and transparency. The number of open data sites in developing countries is significantly smaller, however, these numbers will likely rise considerably in the upcoming years.

¹ Center for Open Data Enterprise Map <http://www.opendataenterprise.org/map/viz/index.html>

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Figure 1: Open Data Initiatives Map by the Center for Open Data Enterprise.

There is a tangible need for projects that use Open Data to fight public health outbreaks and improve socioeconomic development, such as the Public Health Laboratories working with Dengue and AIDS in Latin America, Open Source Malaria² and Cuidados Intensivos Peru³. There is also a need for projects that use Open Data for mapping, such as the Open Street Map⁴ and GeoCensos⁵ in Colombia.

Open Data can lead to change through a domino effect. In order to use Open Data to reach the Global Development Goals we must come up with new strategies and capacity building ideas.

Advocacy

Open Data is not a privilege, it's a right. Through advocacy, we create consciousness of this right. Advocacy gives civil society the tools needed to create small data revolutions that one day will merge and form part of the big data revolution that will bring change to society as a whole. Civil society plays a key role in Open Data advocacy and education. Individual Open Data advocates are also essential. An individual has the power to persuade an entire organization to launch bigger advocacy projects on Open Data, therefore, increasing their target audience.

² Open Source Malaria opensourcemalaria.org/

³ Cuidados Intensivos Peru <http://cuidadosintensivos.ojo-publico.com/>

⁴ OpenStreetMap <https://www.openstreetmap.org/>

⁵ GeoCensos <http://www.geocensos.com/>

Education

Workshops on Open Data, such as the ones offered by School of Data ⁶ are excellent initiatives that prove the important role education plays when it comes to open data empowerment.

Open Data courses and workshops, both locally and online help individuals turn their data into information with the power to impact decision makers and influence public opinion. School of Data, Open Schools Kenya⁷, Open Knowledge Foundation⁸, BROSDI Uganda⁹, Code for Africa¹⁰, are examples of success stories using education to empower in Open Data,

Civil Society Involvement

Civil society increases citizen involvement, fight towards democracy and transparency and creates a significant pressure towards the government, promoting the release of politically sensitive data. Civil society members also play an important role as advocates and innovators. HIVOS Latin America¹¹, Grupo ProJusticia Nicaragua¹², Open Data Peru¹³, and Map Kibera in Kenya¹⁴, are some successful projects that work towards achieving transparency and development through the creation of civil societies.

Competing Interests

The authors declare that they have no competing interests.

⁶ School of Data Workshops :<http://schoolofdata.org/learn/>

⁷ Open Schools Kenya: openschoolskenya.org/

⁸ Open Knowledge Foundation: <https://okfn.org/>

⁹ BROSDI: <https://www.hivos.org/partner/brosdi>

¹⁰ Code for Africa: <https://codeforafrica.org/>

¹¹ Hivos: <https://www.hivos.org/where-we-work>

¹² Grupo Pro Justicia: projusticia.org.ni/

¹³ OPDE: odpe.org/

¹⁴ Map Kibera: mapkibera.org/

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