Introducing open knowledge as an approach to knowledge sharing in global development

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June 2015

The purpose of this paper is to provide a brief overview of the key Open Knowledge definitions and concepts as they relate to the application of Open Knowledge approaches in knowledge sharing for global development.

Introduction

Each year institutions, researchers and practitioners generate thousands of reports, articles and datasets that have the potential to improve the way in which we address global development issues and challenges. The majority of these, although significantly not all, are now being published in digital formats. Yet much of this knowledge remains invisible and underused by broader development audiences online.

Open Knowledge approaches seek to unlock the social value of this knowledge by increasing the ability of third parties to access, share and reuse it effectively. Advocates for Open Knowledge argue that if we make this possible we ultimately increase the potential for action and impact resulting from that knowledge being shared.

What do we mean by open knowledge?

When talking about Open Knowledge we are drawing together a number of definitions of "openness" that encompass related terms like Open Access, Open Content and Open Data.

Key definitions

The Open Definition sets out in detail the principles that define "openness" in relation to data and content. These are summed up in the statement that:

Open means anyone can freely access, use, modify, and share for any purpose (subject, at most, to requirements that preserve provenance and openness).

The Open Knowledge Foundation states that:

> *'Open knowledge' is any content, information or data that people are free to use, re-use and redistribute — without any legal, technological or social restriction. Open data are the building blocks of open knowledge. Open knowledge is what open data becomes when it's useful, usable and used.*

The key features of openness are:

- *Availability and access: the data must be available as a whole and at no more than a reasonable reproduction cost, preferably by downloading over the internet. The data must also be available in a convenient and modifiable form.*
- *Reuse and redistribution: the data must be provided under terms that permit reuse and redistribution including the intermixing with other datasets. The data must be machine-readable.*
- Universal participation: everyone must be able to use, reuse and redistribute — there should be no *discrimination against fields of endeavour or against persons or groups. For example, 'non-commercial' restrictions that would prevent 'commercial' use, or restrictions of use for certain purposes (e.g. only in education), are not allowed.*

See also the '5Rs framework' for a description of the key features of open content.

In addition to these definitions there are two key concepts which enable the practical application of Open Knowledge. These are:

Licensing

The way in which content is licensed can dictate the degree to which content can be considered "open" against the key features of availability, access, re-use and redistribution. There are many different forms of licensing which explicitly define how data and content can be reused, revised, remixed and redistributed.
It is this distinction that differentiates open content from content that is "freely available". The latter only considers access to the content, whereas open content also considers the free use, modification and shareability of that content.

The Creative Commons suite of licenses is the best known and most widely used for content. [See our learning paper on licensing at OKHub.org/learning].

Interoperability

While licensing provides users with legal permission and an understanding of how they can engage with content it is also important to consider the choices made in the way in which content is presented, described and organised. This is termed interoperability. As the Open Data Handbook describes it:

"interoperability is absolutely key to realizing the main practical benefits of "openness": the dramatically enhanced ability to combine different datasets together and thereby to develop more and better products and services"

The format used to present the content can enable or impede a user's ability to use, modify and share it. The ALMS Framework encourages consideration of:

1. Editing Tools: Is the open content published in a format that can be revised or remixed using tools that are freely available and run on all major platforms?
2. Level of Expertise Required: Is the open content published in a format that requires a minimum level of technical expertise to revise or remix?
3. Meaningfully Editable: Is the open content published in a manner making its content easy to revise or remix (e.g. a text file as opposed to a scanned handwritten document)?
4. Self-Sourced: It the format preferred for consuming the open content the same format preferred for revising or remixing the open content (e.g., HTML)?

Similarly the development, adoption and use of shared approaches to the way in which content is organised, described and shared is an important aspect of interoperability. This can be achieved through the adoption of

common and widely recognised protocols and standards (if they exist) or through the collaborative mapping of how different collections of content are organised and the relationships between them. These approaches are collectively termed linked data and linked open data (LOD) approaches.

Recommended Reading and Resources

General

- Open Knowledge's Open Data Handbook: http://opendatahandbook.org/
- Hilton, John L. III; Johnson, Aaron; Stein, Jared; and Wiley, David, "The Four R's of Openness and ALMS Analysis: Frameworks for Open Educational Resources" (2010). All Faculty Publications. Paper 822. http://scholarsarchive.byu.edu/facpub/822
- Davies, T. Edwards, D. Emerging implications of Open and Linked Data for Knowledge Sharing in Development, Tim Davies, Duncan Edwards (2012): http://opendocs.ids.ac.uk/opendocs/handle/123456789/2247

Definitions

- Open Definition: http://opendefinition.org/od/index.html
- Open Content definition: http://www.opencontent.org/definition/

Licensing

- Open Knowledge's Guide to Open Licensing: http://opendefinition.org/guide/
- The Open Data Institute's Publisher's Guide to Open Licensing: http://theodi.org/guides/publishers-guide-open-data-licensing
- Creative Commons - http://creativecommons.org/
- Open Data Commons Licenses FAQ: http://opendatacommons.org/faq/licenses/
- Open Content - A Practical Guide to Using Creative Commons Licences: http://commons.wikimedia.org/wiki/File:Open_Content_A_Practical_Guide_to_Using_Creative_Commons_Licences_web.pdf

Interoperability

- Open Data Handbook: http://opendatahandbook.org/guide/en/what-is-open-data/
- Open Content: http://www.opencontent.org/definition/
- Open Archives Initiative: https://www.openarchives.org/
- 7 things you should know about…Linked Data: https://www.coar-repositories.org/activities/repository-observatory/second-edition-linked-open-data/7-things-you-should-know-about-open-data/

Organisations and Networks

- Open Knowledge Foundation: http://okfn.org
- Open Data Institute: http://www.theodi.org/
- Open Data for Development in Latin America and Carribean: http://www.od4d.org
- La Alianza Regional por la Libre Expresión e Información: http://www.alianzaregional.net/
- Open Data Research Network: http://www.opendataresearch.org/
- COAR (Confederation of Open Access Repositories - https://www.coar-repositories.org/
- Code for Africa: http://www.codeforafrica.org/

General Resources on Knowledge Sharing and the Role of Knowledge Brokers

- I-K-Mediary Network: http://www.ikmediarynetwork.org
- Knowledge Brokers' Forum: http://www.knowledgebrokersforum.org
- K* http://inweh.unu.edu/kstar/
- KM4Dev: http://www.km4dev.org/
- Web24Dev: http://www.web2fordev.net/en/

The Open Knowledge Hub project aims to improve the supply and accessibility of content that supports evidence-informed policy making and practice in international development. It builds on emerging approaches from the open access and open data movements to create a new open and collaborative "hub" for sharing of development knowledge whilst facilitating peer support and shared learning between project partners.

To find out more go to OKHub.org or email info@okhub.org. More learning resources are available at OKHub.org/learning.

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