

# Towards a sustainable Open Data Ecosystem: first steps for optimizing findability and user feedback

Abdul Aziz, Dagoberto José Herrera-Murillo, Javier Nogueras-Iso, F. Javier Lopez-Pellicer  
Advanced Information Systems Laboratory (IAAA)  
Universidad de Zaragoza, Mariano Esquillor s/n, 50018, Zaragoza, Spain.  
Tel. +34-976762707, e-mail: [abdul.aziz, dherrera, jnog, fjlopez@unizar.es](mailto:abdul.aziz, dherrera, jnog, fjlopez@unizar.es)

## Introduction

Open data are data that are free of charge, openly licensed, machine readable and provided in an open format. In the past decade, open data initiatives have resulted in a greater availability of open data, with the expectation of realizing ambitions such as improved efficiency and effectiveness of public services, increased transparency, accountability, citizen participation, and economic and social value creation [1]. However, there are still many challenges that prevent open data to live up to its potential and sustainability:

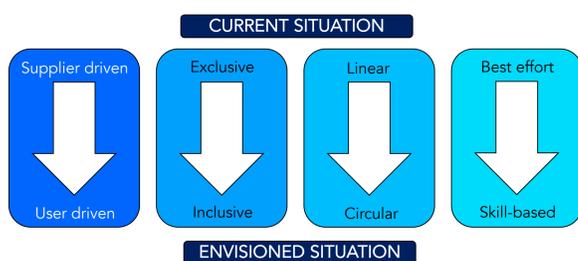
- Lack of skilled people to use open data and create added value.**
- Existing open data ecosystems are neither user-driven nor balance demand-supply matching.** Provisioning data from governments to end users is often made through a one-way data portal without differentiating distinct types of users.
- Existing open data ecosystems are linear.** Users of open government data typically capture value without adding value back to the ecosystem.
- Current open data ecosystems are exclusive.** Research and practice are focused on a limited selection of providers and user groups, while many other stakeholders are ignored.

## Research Agenda

### About ODECO

ODECO is a 4-year Horizon 2020 Marie Skłodowska-Curie Innovative Training Network initiative whose main aim is to train the next generation of creative and innovative early-stage open data researchers, to unlock their creative and innovative potential to address current and future challenges in the creation of user driven, circular and inclusive open data ecosystems (Figure 1).

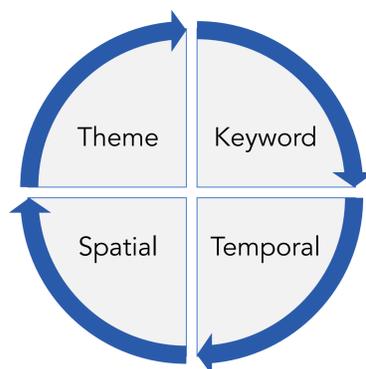
Figure 1. Towards value-creating and sustainable open data ecosystem



### First steps for optimizing findability

Current information retrieval systems behind Open Data catalogs are based on the indexing of the textual and spatial properties. The text used for metadata is usually short and more specific properties, such as spatial coverage, lack coordinates to facilitate spatial indexing. As an initial work in this direction, we are designing a search user interface prototype that includes several query expansion mechanisms (Figure 2).

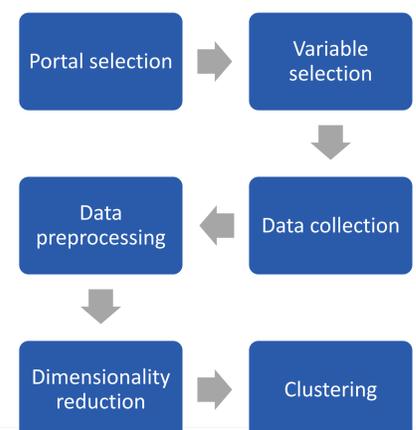
Figure 2. Query expansion mechanisms for an improved search user interface



### First steps for optimizing user feedback

The portals of some Open Data initiatives offer dedicated discussion forums where different communities of users can report their experience in the reuse of data. However, this kind of user feedback is heterogeneous and cannot be compared automatically. We have proposed a methodology (Figure 3) to compile a series of variables describing both the main features of the Open Data initiatives and their associated Twitter activity.

Figure 3. Methodology for measuring user feedback



## Conclusions

The objective of this work has been to present the initial steps that are necessary from a technological perspective to enhance the findability of existing data and obtain more actionable feedback from users.

## References

- JETZEK, T. The value of Open Government Data. *Geoforum Perspect.* 2013, 12(23), 47-56.
- POLLOCK, R. Welfare gains from opening up Public Sector Information in the UK, University of Cambridge. 2011, vol. 4.

## Acknowledgements

This work has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No. 955569.

