

Where Does the Value of Open Data Lie? A Framework to Assess Open Data Impacts

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Abstract: Literature concerning the impacts of OGD is still limited to anecdotal evidence. The object of this work is a framework for the measurement, hence assessment, of the overall impacts, in terms of value creation and efficiency bolstering, of OGD owned and published by Public Agencies. The framework to construct shall combine the display of impact evaluation tools with a requirement for sustainability of the publication process. The poster shows the process for the definition of the framework and a preliminary categorisation of impacts that shall lead to the identification of measurement indicators.

Keywords: Open Data, impact measurement, Public Administration

1. Purpose of the Framework

The object of this work is a framework for the assessment of the overall impacts of Open Data (OD) owned and published by Public Administrations (PA). The GIO-CONDa framework¹ combines the display of impact evaluation tools with a requirement for economic sustainability of the publication process. The value of the framework rests in a contribution to both research and practice. In fact, it builds upon theories and constructs for OD impact measurement while starting their actualisation, to pave the path for a larger debate on the definition of indicators and their application. In this sense, the result of the work will be twofold. On the one hand, the goal of GIOCONDa is to produce a useful tool for PAs for self-assessing the impacts of data they open up and publish, as well as their

¹ GIOCONDa is the acronym of the Interreg Italy-Switzerland project it is developed within. GIOCONDa is funded by the European Regional Development Fund and by April 2021 it will provide cross-border territories with a reusable crosswise applicable platform for open data and linked open data publication.

publication process and dedicated portals. This means that the framework shall combine scientific robustness with simplicity of adoption and flexibility with regard to PAs' specificities. However, this can lead to a second product targeted at scientific debate, allowing a higher level of abstraction to achieve a more holistic and generalisable outlook. In order to do achieve these products and based on the synergies that GIOCOOnDa creates, the poster unfolds a possible design for the framework, in order to open further debate about: 1. how different types of impacts should be grouped and categorised; 2. what literature stream is best adequate to substantiate impacts; 3. how sustainability is best conceptualized.

2. Literature Review

Literature concerning the specific impact of OD and even more generally of OD still mostly relies on anecdotal evidence (Zuiderwijk & Janssen, 2014). Research focuses on theoretical aspects, descriptions of empirical uses, and/or design of technical solutions. Little attention is paid to the way OD can enhance policy design, also due to the costs and time required for policy evaluation (Harrison et. al., 2012). Thus, PAs (policy makers and officials) are left without the needed evidence to assess, improve and modify policies. The framework aims at fulfilling this need by providing a process and method to create a knowledge base for PAs to assess what existing sets of data they shall be given priority in publication, and eventually what data they shall engage to collect. In order to do this, a second research step shall consist of displaying a categorisation of impacts based on existing literature (Attard et. al., 2016), upon which a comprehensive yet flexible dashboard of measurement indicators shall be produced.

3. Methodology

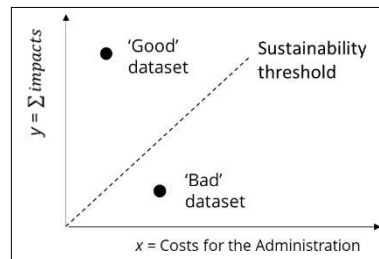
To design the framework we adopt mixed methods, a choice determined by the opportunity to benefit from the overall project results. In particular: (i) a pre-study about data demand by PAs based on interviews and surveys was performed by project partners; (ii) a scientific and grey literature review is being carried out, to adopt a consolidated categorization of impacts, and a review of use cases will be carried out to identify a set of indicators; (iii) in Autumn 2020, the framework will be applied by PAs participating in the piloting of the GIOCOOnDa platform for publication. Depending on the capability of the project consortium, the framework will be also submitted to a network of stakeholders (academics, practitioners and officials). Thanks to the pilots, we will be able to provide a first evaluation, hence a starting point for what is supposed to be a recursive process of measurement and ongoing assessment of impacts.

4. The Design

The figure represents the overall design of the framework. Impacts are organised in macrocategories (eg. economic, environmental, social, ..) identified through the study of literature and submitted to stakeholders for validation. The categorisation must be pragmatic, i.e. it should mirror the needs and political preferences of the PA. Impacts are then in turn sub-categorised under

internal and external ones, respectively concerning the PA (eg. financial savings, buildings carbon footprint, ...) or the administered territories (eg. economic growth, air quality, social mobility, ...).

Figure 1: Overall Framework Design



For every sub-category of impacts, measurement indicators are to be identified, in order to create a dashboard that can be enriched over time. The y coordinate is obtained weighting all impacts according to the preferences and priority that PAs independently set by political decision. The x coordinate is estimated based on data production and publication costs thus ensuring the process sustainability. The estimation of x also considers the preconditions for the restraint of costs such as the level of automation of publication, the ease of collection (also depending on data intrinsic qualities), the general administration capacity in terms of information management. Thanks to the piloting phase of the GIO-COnDa project, we will be able to position selected datasets and, in so doing, providing administration with a “first round” of impacts evaluation. The application of the framework is then a recursive process that PAs shall perform when results in terms of impacts are expected and isolating the effects of data sharing from other policies and/or contextual factors. For this reason we recommend departments and offices to be in charge of setting the frequency of data analysis for the group of dataset of interest for their sector.

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Michele Benedetti is a research fellow and lecturer at the School of Management of the Politecnico di Milano. Since 2001 he has carried out research on digital innovation, studying the role and impact of digital on Public Administration organization and management and deepening new models enabled by ICT technologies for

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Irene Vanini took her BA and MA in Philosophy at the University of Milan, where the NASP/Graduate School in Social and Political Science awarded her a PhD in Political Theory in 2017. After working as a teaching associate at the University of Sheffield and the University of York (UK) she joined the working group on Public Administration at Politecnico di Milano, where she researches innovation by digitalisation, policy making and governance of the public sector.