Summary (Project period 1)

The OpenDataMonitor (ODM) project offers a ground-breaking new concept that provides users with a platform that gives an overview of open data resources, and undertakes analysis and visualisation of existing data catalogues. The tool will be invaluable in providing comprehensive open data analysis to open data publishers, consumers, and wider stakeholders all over Europe. The consortium partners deliver sophisticated yet intuitive methods to scan data catalogues, analyse meta-data and provide comprehensive visualisations from a vast pool of resources, ranging from single public national-level open data collectors to pan-European open data hubs. Using standardised APIs (e.g. CKAN) it is possible to statistically analyse and present various metrics including data usage, file formats, updates, licenses and additional meta-data. Such findings are subsequently exploited to identify current trends, gaps and potentials of open data resources in the upcoming years. Furthermore, the OpenDataMonitor platform features a multilingual user interface and intuitive dashboards to enable comprehensive open data analysis for open data publishers and key stakeholders across Europe.

To achieve the stated aims, the project framework is structured into four stages. Firstly, the partners conduct extensive **research studies and stakeholder analysis**. This stage included detailed investigation of current open data topologies, catalogues, metadata harmonisation, innovative monitoring methods, architectures and standards, best practice data visualisation, dashboards and key figures. During the second stage of **concept design and software development**, the exact technical specifications, and functionalities as well as detailed interface designs and dashboards for metadata harmonization & monitoring are defined. Next, platform **demonstration** is marked by the deployment of the tool demonstrator, performing usability tests and undertaking feedback loops with selected end users to ensure an easy introduction to its usage. The last stage of the project describes the **dissemination and exploitation** activities. Partners of the consortium utilise a range of tools and networks to disseminate the outcomes of ODM to identified community groups and users, including website, project branding, publications, presentations and public events.

A ODM RESEARCH

Throughout the first year of the ODM project, partners have undertaken a number of research studies which ultimately underpin the concept design and software development for the platform. All publicly available reports can be found in the deliverables section of our project website**.** To evaluate open data topologies, catalogues and metadata harmonization the consortium explored the available literature covering a range of topics, including the economic and social potential of open data, the availability of key datasets and national level readiness for open data exploitation. The paper “Open data topologies, catalogues and metadata harmonisation report” builds on this

literature by providing a technical account of European open data deployment to give a more complete picture of the open data landscape.

In addition, the consortium has created a survey of existing approaches and solutions both for the overall problem of monitoring the open data landscape, as well as for the specific aspects and sub-problems that are involved in the process. The ODM consortium has reviewed existing projects relevant to ODM, distinguishing between open data score comparison platforms, open data hubs, official open data portals, and other approaches. During this review process, the main characteristics, commonalities, and distinguishing features between the various projects were discussed within the scope of ODM's objectives. Based on such insights, the paper "Best practice visualisation, dashboard and key figures report" presents the suite of metrics that the ODM platform will compute based on harvested metadata. It examines a range of visualisation and information dashboard techniques that will aid in gaining key understandings from these metrics.

In our most recent research, the Open data stakeholder requirements covers not only the stakeholders themselves but strategic processes around open data such as policy making, decision making for platforms and administrative implementation. This comprehensive research included over 30 semi-structured interviews of stakeholders from Germany, Spain and other European countries. The "Open data stakeholder requirement report 1" gives an overview of existing literature, outlines the stakeholder roles, their interests, requirements, and the potential barriers throughout the open data process. It concludes with describing the practical solutions that ODM will offer each stakeholder group in understanding and effectively using open data.

In addition to these papers, forthcoming reports shall explore the open data resources relevant to the platform, such as APIs, catalogues, platforms and reports. These findings will be elaborated later in the project to ensure that the provided information reflects the evolving nature of open data publication.

B ODM TECHNICAL DEVELOPMENT

Besides the comprehensive research activities that were performed during the first project year in parallel actual technical development took place. In a nutshell, the goal of the open data monitoring framework is to enable and support the harvesting of metadata from open data catalogues, their storage, processing, and analysis, and eventually their use for generating visualizations and reports. After identifying the platform features and their functionalities, four main dashboards were defined. The ODM platform will have an integrated aggregate level dashboard, geographical based dashboard, comparison of entities and their attributes dashboard, and last data catalogue dashboard. Until the end of the first project year the particular technical parts of ODM were implemented and documented in public status reports. The first months of development have been running in parallel with requirements analysis and concept design, using an agile methodology. Mockups, sketches, questionaries' and open dialogues are being used to gather all the requirements to fulfil the end-users requirements.

As planned, the primary efforts thus far with technical development have focused on preparing and setting up the tool demonstrator. For this purpose, a code repository has been setup, and the prototype that comprises the components that have been designed and developed in WP3 has been deployed on a server for demonstration. This will serve as the basis for the rest of the work in this WP which takes place during the second period of the project. In particular, the next steps will comprise preparing user manuals and tutorials for showcasing the demonstrator to selected end-users, performing usability tests, and using the feedback from the users to improve the tool's functionalities. Furthermore, to open the communication channels to all the existing and future stakeholders and broad public, the technical team developed an additional product for this project. The additional product represents a Knowledge Base that will provide the community with detailed information about the open data landscape as well as on relevant insights that were made during the project. Furthermore it will allow the project consortium to receive direct feedback from interested stakeholders.

Besides the Knowledge Base, during the second project year the consortium will publish relevant outcomes to the community and present the working demonstration site to the public. In addition to usual dissemination activities (newsletters, twitter, presentations) the project will also hold its own Symposium in the second half of the upcoming project period to raise the awareness of the OpenDataMonitor platform. The ODM consortium also closely interacts with other projects (e.g. Open Data Support) to create valuable synergies and improved outcomes.

C ODM IMPACTS AND MEANS OF ACHIEVEMENT

OpenDataMonitor aims to overcome some of the main challenges in understanding the availability and gaps in open data. ODM will deliver a tool useful for a wide range of different end user types, with different purposes concerning open data. These users include: start-ups and entrepreneurs, policy makers, journalists, researchers and academics. Both publishers and consumers will benefit from the tool delivering:

- a richer understanding as to what datasets are available, at regional, national and European levels, to support increased reuse of these open data resources by a wide range of users, from developers, to government and public bodies and citizens.
- a sharper overview of the availability of both regional and national open data, as well as a clear collection of open data resources that publishers have.
- tools that support development of both sustainable and profitable open data policies and strategies, which will be enhanced through an understanding of the gaps in datasets, and areas to focus on.

D ODM CONSORTIUM

SYNYO GmbH

SYNYO GmbH, an SME based in Vienna, Austria, is an independent social research and innovation hub that focuses on the intersection between Information & Communication Technologies (ICT) and Society to provide smart solutions to citizens, consumers and decision-makers.

Athena Research and Innovation Center

The Institute for the Management for Information Systems (IMIS) is a part of the Athena Research Center. The mission of IMIS is to conduct research, develop innovative applications, and provide services in the areas of large scale information systems, with a focus on geospatial data, Linked Data and Big Data.

University of Southampton

Electronics and Computer Science (ECS) at the University of Southampton has a leading role in developments in the areas of Web Science and Linked Data, including the prestigious Web and Internet Science research group, which will be directly involved in the project.

Open Data Institute

The Open Data Institute (ODI) was officially launched in December 2012. As an independent, non-profit, non-partisan company, the ODI has a funded commitment to work with the UK Government (via the UK innovation agency, the Technology Strategy Board) over the next five years.

IfG.cc

IfG.CC is a non-partisan, non-profit research institute for new forms of government and public administration in the information age. It researches and develops new ICT-based organisational models and forms of governance in a variety of policy fields.

Red.es

Red.es is the public corporate entity attached to the Ministry of Industry, Energy and Tourism (MINETUR) which is responsible for promoting the development of the Information Society in Spain. Red.es manages the Spanish Public Administration Data Reuse Catalogue, available on datos.gob.es.

City of Munich

The Munich city administration is responsible for social welfare, business and tourist promotion, services of general interest, environmental issues, cultural affairs and city planning. The Munich Managerial Board - ICT strategy - is responsible for internal IT solutions and for providing public access to data of general interest.

Contact details:

Email: office@opendatamonitor.eu

Twitter: @opendatamonitor/

Project Website: http://project.opendatamonitor.eu/

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