Innovation for dissemination in the European Statistical System – the approach of the DIGICOM project

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Abstract

The ESS Vision 2020 is a common strategic response of the European Statistical System (ESS) to the challenges that official statistics are facing, in particular with the data revolution. National Statistical Institutes and Eurostat engage in modernisation efforts and "Improving dissemination and communication" is one of the key areas of the ESS Vision 2020; dissemination should harness the potential of the new technological developments, in order to face the competition from new data producers and to better serve users.

The Digital communication, User analytics and Innovative products (DIGICOM) project addresses this key area of the ESS Vision 2020. The project's goal is to create new, innovative dissemination products, tools and services for European statistics. The idea is that Eurostat and the National Statistical Institutes across Europe work together to develop solutions and build their capacities.

The project is developing innovative and shareable products and tools, in particular digital publications and visualisations. An analysis is currently made of the barriers and opportunities concerning open data dissemination, in particular Linked Open Data. Finally, an analysis will be conducted on the perception of the value of European statistics, in order to develop new communication strategies. Eurostat would like to share the state of play of the project and to seek feedback from the participants.

Keywords: innovation, tools, visualisation, open data, communication

Session (v) Embracing innovation in data dissemination

Innovation for Dissemination in the European Statistical System – The DIGICOM project's approach

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1. DIGICOM: a project implementing the European Statistical System Vision 2020

In 2014, the ESS agreed on a common vision to build the future of European statistics and on a modernisation agenda, the "ESS Vision 2020"[1]. Why? With the data revolution, official statistics face huge opportunities, in particular new sources that can improve the timeliness and relevance of our statistics, but also challenges, such as the competition of new data producers. National Statistical Institutes and Eurostat need to engage in modernisation efforts in a time of severe resource constraints. By implementing the Vision, the ESS will respond to these challenges by, amongst other:

- engaging proactively with users and meeting their demands in a cost-efficient manner;
- improving responsiveness to new user needs;
- delivering information in an interactive and easily comprehensible way;
- improving the statistical literacy of European citizens and institutions, by guiding them through large volumes of data and information from numerous sources;
- making improvements to key aspects such as responsiveness and flexibility;
- being proactive and looking for innovative solutions;
- working together, in sharing methods and tools;
- increasing data value by communicating products and services in an active and coordinated way.

Users, dissemination and communication are therefore high on the ESS Vision 2020 agenda.

Eurostat and National Statistical Institutes are carrying out actions implementing the Vision individually, but there are also common projects. The project for Digital communication, User analytics and Innovative products (DIGICOM) is one of the eight projects from the ESS Vision 2020 portfolio[2]. The project aims to modernise the communication and dissemination of European statistics. The purpose of this document is to share the project's state of play and to seek feedback from participants.

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[1] http://ec.europa.eu/eurostat/documents/42577/6906243/ESS+vision+2020+brochure/4baffcaa-9469-4372-b1ea-40784ca1db62
[2] http://ec.europa.eu/eurostat/web/ess/about-us/ess-vision-2020/implementation-portfolio

2. Why the DIGICOM project?

This project's importance primarily lies in the growing trend towards instant information that users are experiencing – the so called data deluge – which is increasing expectations in terms of speed of access to statistics. At the same time, users are maybe unable to differentiate between official statistics and other sources, which often lack "proof of quality". Secondly, the ESS has to address new needs and expectations, such as those of data journalists and younger users. Thirdly, NSIs are called to seize the opportunities offered by modern technologies such as visualisation tools, user analytics and the semantic web.

The DIGICOM project aims to explore and develop innovative dissemination products and services, based on experiences within the ESS and the concrete needs of European statistics users. Its main goals are:
- Systematic dialogue with users;
- Review of shareable good practices;
- Experimenting with new products/ upgrading existing statistical products/ sharing products and tools;
- Capacity building.

3. How is it implemented?

DIGICOM was launched in January 2016 for a time-span of four years. The idea is that, across Europe, Eurostat and the National Statistical Institutes work together to develop solutions and build their capacities. The project has raised a lot of interest among Member States. Around 50 colleagues from 18 NSIs (BG, CH, DE, DK, EE, ES, FR, GR, HU, IE, IT, LT, NL, NO, PL, PT, SE and UK) have volunteered to get involved in the project's implementation, which is intended to benefit the ESS as a whole.

With its four strands of work – User analysis, Innovative products, Open data, and Communication and promotion – 55 actions and as many deliverables, DIGICOM is in fact more of a programme than a project, and it will be managed in an agile way.

It should be noted that the ESS is not starting from a *tabula rasa*. The DIGICOM project is thus not sequential (user analytics first, solutions later), as there are instances, in which needs are already known, and work on solutions (tools and products) could already be started early. Moreover, the process is iterative rather than linear, with user needs driving solutions, which then are subject to user feedback which, in turn, is used to tweak the solution, and so on.

4. User analysis (Work Package 1)

Purpose

The actions of WP1, for example focusing on User profiling, ESS social networks and User surveys, will yield a concrete image of the profiles of European statistics users. This, in turn, will allow the ESS to keep up with users' needs and to cater for them by applying a "different strokes for different folks" approach, that is, developing targeted products and communicating via the right channels.

Actions carried out so far

WP1 has analysed the inventory of experience and shareable practices in the following areas: Customer relations management, User satisfaction, User needs and user profiling, User interaction via social media, Web analysis. It was launched and analysed taking into account the survey on communication and promotion activities conducted by the United Nations Modernisation Committee on Products and Sources.

With regard to **Customer Relationship Management** (CRM), NSIs mostly focused on their user support systems, with notable differences between the NSIs that only provide publicly available and free statistics and the NSIs that also provide commercial services. A small share of NSIs use tailor-made or off-the-shelf CRM software solutions.

The most common method for measuring **User satisfaction** are surveys that are distributed to users, followed by focus groups, interviews, web- and social media analytics. The surveys can be general in scope, domain-specific, user group-specific or reputation surveys. The most common frequency for carrying out surveys is every two years. Several NSIs mentioned surveying "key stakeholders", "user boards", "experts" and "advisory boards" on a more regular basis.

The situation with **User needs assessment** and **User profiling** is similar to that observed with CRMs: most NSIs have carried out some kind of activities, but few have a systematic approach. These activities are generally based on conclusions that have been derived from information obtained through CRM, user satisfaction surveys, web analytics, and meetings and consultations with users and stakeholders. Some NSIs mention using user activity (comments, feedback) for user profiling, on their social networks. More systematic approaches include developing personas and applying them to understanding what each type of user may want out of a service, as well as designing persona-specific content.

Most NSIs have their own **Social media** programs. 22 NSIs provided feedback about the social media platforms currently used for engaging with users. Most NSIs reported having Twitter accounts (21), more than half Facebook (13), and a minority had YouTube (6), LinkedIn (5), Slideshare (4) and Instagram (2) accounts. Social media are used for communication with users, dissemination and content promotion, feedback on new products, recruitment, and events. An interesting new practice has been identified, whereby statisticians from NSIs use personal accounts to post content related to their specific statistical domain and engage with users.

In the field of **Web analysis** 27 NSIs reported activity related to weblog-analysis. The indicators monitored are most often: number of visitors, number of page views, downloads, top sites, search terms, but most often it is not stated or possibly not all indicators are stated. 11 countries mentioned using Google Analytics, 3 Awstats, 3 Piwik.

The experience of NSIs, particularly that related to social media, formed the basis for the document "Requirements and specifications for the ESS social network platform for statistics users". A detailed analysis of existing information on users of European statistics is currently underway at Eurostat. The outcome of this analysis will contribute to a new classification of users of European statistics.

Plans

The user profiling exercise will consist in analysing information on the users of European statistics, identifying commonalities in the needs of different user types and grouping them accordingly. The established user groups will be used to recruit for user research (e.g. surveys, focus groups, usability testing) and to produce targeted content.

The ESS pilot Social Networks (a forum for expert users and Facebook page for the general public) will be launched in October 2016 and concluded in March 2017. Based on the lessons learnt during

the pilot phase, the ESS social network(s) for statistics users will be launched. It will allow targeted communication to and with all types of users, enable the creation of virtual communities, where advanced users can have focused discussions with producers of statistics. it will also be used to promote the ESS and European statistics. The insights from WP1 will lay the foundation for action in the project's three other Work Packages.

5. Innovative and shareable products and tools (Work Package 2)

Purpose

The focus is on developing dissemination tools and innovative products that can easily be shared and customized. While contributing to more harmonised data dissemination and improved interactive visualisation by end-users, this is expected to relieve NSIs of the burden of having to develop their tools alone.

Actions carried out so far

An event was organised in May 2016 to promote the sharing of experience on the use of visualisation tools by NSIs. The ESS Visualisation Workshop held in Valencia[3] brought together 100 statisticians (nearly all ESS NSIs were represented), representatives from services of the Commission and European Institutions (JRC, OP, ECA, the ECB) as well as researchers, graphic designers and data journalists (El Mundo). Participants appreciated the Workshop and considered it an important contribution to intensifying the ESS´s collaborative partnership.

An inventory of shareable solutions has been carried out, as has the first pilot exercise focusing on tools developed by Eurostat. Three tools are currently being disseminated by nine NSIs: "Economic trends", "Young Europeans" and "Quality of Life".

Plans

The group plans to share new visualisations: "You in the EU", "Government Expenditure", as well as Flow maps: "Shipments of Waste" and Smart maps, as well as to develop common guidelines facilitating the sharing of visualisation tools.

The focus in WP2 is on developing content that is easily shareable and customisable. In particular, the products that will be developed within this package include a digital ESS flagship publication to be released in 2017 on the topic "Women and Men in the EU". The concept is one of a "connected" publication designed to include a mix of text, interactive elements and embedded features such as graphics, infographics, videos and photo-visualisations. The idea is to enable users of statistics to immediately and interactively explore the statistical data described in the text. The tool will be shareable, either in its entirety, by individual building blocks or as a single interactive graphical element. In order to improve the impact of national promotional actions, it was also agreed that one should aim for a multi-lingual publication.

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[3] http://ec.europa.eu/eurostat/cros/content/summary-report_en

6. Open data dissemination (Work Package 3)

Purpose

This Work Package's ultimate objective is to facilitate automated access to European aggregate data for heavy users or re-disseminators, and to develop services giving as much freedom as possible to active users to create their own products, based on official statistics data and statistics.

Actions carried out so far

The first activities of WP3 were to analyse the inventory of practices in the ESS. The inventory exposes a marked difference in the open data maturity of participant NSIs. Most institutes have a clear intent and direction of travel on open data. Although the majority of participants do provide data in an open format, there is a definite gap between those providing users with access to data programmatically through an Application Programming Interface (API) and those that are not. It seems that only around half of the respondents have active APIs.

Out of 29 countries, less than a third have taken part in linked-open-data (LOD) pilot activities. However, nearly a fifth of all inventory participants are actively publishing to the LOD standard. Four countries: IT, FR, IE and CH, have definitive strategies for moving entirely to the release of data using semantic web technologies.

The two ends of the spectrum are far apart, and it is clear that the broad adoption of Linked Data is some way off. Two main issues have been identified:
- Several NSIs do not have LOD plans and they are questioning its real utility, due to the lack of tangible services built using these formats.
- For NSIs with an interest in moving towards LOD, there is an indication that a lack of standards is hindering the adoption of Linked Data.

Several members of the WP team are directly involved in the work of the HLG Linked Statistical Metadata/Implementing Modernstats Standards project, which allows a good coordination between the two projects.

Plans

A more detailed stock-taking exercise is starting and its outcome will be used in subsequent activities. It aims to:
- Identify and develop proofs of concept that clearly show the added value of LOD for users and the type of services built on LOD;
- Define an Open data strategy for the European Statistical System;
- Publish official statistics in LOD portals;
- Develop standards such as agreed ontologies and Uniform Resource Identifier (URI) structures.

An ESS conference will be held on LOD, in January 2017 in Malta, in order to exchange experiences and provide elements for the ESS open data strategy.

7. Communication and promotion (Work Package WP4)

<u>Purpose</u>

Ensuring public trust in official statistics, by promoting the value of European statistics, lies at the core of this work package. This will, in-part, be achieved by increasing the emphasis on publicising quality as a driving force for all our activities and developing new meaningful and transparent ways of communicating the user-oriented quality assurance mechanisms that are applied to our statistics. Moreover, this work package promotes statistical literacy, in particular mitigating the risk of improper and unjustified use of ESS statistical products and services. This Work Package also comprises general outreach activities.

<u>Actions carried out so far</u>

The inventory of statistical literacy practices, outreach activities and communication strategies was carried out.
Most NSIs have some experience with statistical literacy. In general, the target groups are universities and schools, but some countries also have as target groups: journalists, stakeholders, enterprises, NGOs, political entities, potential users, the general public, respondents, unemployed persons, etc…
Most of them focus on students and teachers, but in some cases, teachers are a target group, whilst in others they act as multipliers, spreading statistical knowledge to scholars.

The WP team also takes into account the UNECE report on improving and measuring the value of official statistics.

WP4 is currently working on communication proposals on how the experimental/innovative statistics could be communicated to users without damaging the image of official statistics.

<u>Plans</u>

A marketing study will be launched amongst users, with the aim of assessing the perception of the brands "Official statistics" and "European statistics", and of obtaining professional recommendations, in view of promoting the value of official statistics in the EU. This will be done mainly through focus groups in several Member States. Results are expected in the second half of 2017.

Based on the analysis of the inventory, 2017 will see the sharing of statistical literacy tools and the creation of new ones. In particular Eurostat will launch "Statistics for beginners". The target is upper secondary education (15-18 year-olds) as well as adults with a very basic knowledge of statistics. Six NSIs are part of the editorial group. The first proposal includes ten concepts explaining statistical fields (e.g. demography, the labour market, energy, etc.).

An ESS hackathon is planned in coordination with the "big data" project. It will be take place in March 2017 in Brussels, concurrently with the NTTS 2017 conference (www.NTTS2017.eu).

8. Conclusion

As DIGICOM is still at an early stage of implementation, the conclusions are limited to those that could be drawn from the first deliverable of the DIGICOM project; the ESS inventory of shareable practices. From the inventory, it could be concluded that there is already a wide range of activities in the NSIs that are contributing to the objectives of the ESS Vision 2020 in terms of communication and

dissemination. On the other hand there is clearly scope for further sharing tools; the next steps of the project's implementation will support this sharing as well as the creation of new tools.

Another significant outcome of the experience so far were the new relations between NSI staff at technical/expert level, which were established as they worked together to analyse and draft common inventory reports, and as they reached out to each other to obtain more information on practices that they found interesting. The inventory and the newly established relations will form the basis for capacity building within the ESS.