

ESSnet on Standardisation

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Csaba Ábry (HCSO, Hungary) & Deirdre Giesen (CBS, the Netherlands)¹

ABSTRACT

The ESSnet on Standardisation project was launched in December 2012 in order to continue the work of the Sponsorship on Standardisation. Its aim is to further develop the recommendations of the Sponsorship on Standardisation in practice and to support the establishment of the Integrated Statistical System within the ESS. The work of the ESSnet includes an inventory of normative documents (e.g. legal acts, standards) at the ESS-level; an analysis of a number of standardisation projects with the aim of getting insight good practices and potential risks; a description and analysis of the whole standardisation process in detail, based among other on case studies of standardisation projects, and the development of a cost-benefit assessment for standardisation activities with the purpose of facilitating ESS decision making about these activities. In this paper we will give an overview of the background of this project, what has been achieved so far and our plans for the remainder of the project.

1. Introduction

The need for a statistical system using standards is of high importance both at the international and the national level. Establishing a standardised statistical system at the international level will lead to a more transparent system with shareable tools and methods. Using standards in the statistical business process can lead to the increase of e.g. efficiency, comparability and coherence and can reduce costs.

Generally, the goal of ESSnet on Standardisation is to support the establishment of the Integrated Statistical System within the ESS, as outlined in the Communication from the

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Commission to the European Parliament and the Council on the production method of EU statistics: a vision for the next decade [1].

In this paper we will first give an overview of the background and context of this project and then describe what has already been accomplished and which activities are planned.

2. Background and context of the project

2.1 Workshop on Standardisation

The issue of standardisation at the ESS level goes back to the Workshop on Standardisation held in Brussels, on 14th-15th October 2010. 18 Member States of the EU, Eurostat, the USA, Australia, and the UNECE attended the workshop, where the importance of the issue of standardisation at ESS level was highlighted. The scope of the workshop was to share experiences in standardisation, to highlight the scope and priorities of standardisation at ESS level and to define the scope of what should be standardised. The documents of this workshop can be found on the DIME WIKI platform².

The workshop concluded that an ESSnet project (later called: ESSnet STAND-PREP (ESSnet on Preparation for Standardisation)) was to be launched in the same year in order to prepare actions later to be carried out by the Sponsorship on Standardisation.

2.2 ESSnet on Preparation for Standardisation (ESSnet STAND-PREP)

The ESSnet project, endorsed by the Workshop on Standardisation, focused on the following perspectives of standardisation at ESS level (deliverables of the ESSnet STAND-PREP):

- Stocktaking of literature on standards and standardisation
- Proposal on use of the ISO/IEC vocabulary for ESS needs
- Classification of standards
- Process for the adoption of standards
- Conformity assessment, support measures
- Detailed analysis of several handbooks

The documents of this initiative are available on the CROS-portal³.

² <https://webgate.ec.europa.eu/fpfis/wikis/display/essmethodology/Workshop+on+Standardisation>

³ <http://www.cros-portal.eu/content/stand-prep-finished>

2.3 Sponsorship on Standardisation

The Sponsorship on Standardisation (active from 2011 until 2013; hereafter: the Sponsorship) was established to develop strategic guidance for standardisation at ESS level. The Sponsorship worked out the framework of the ESS standardisation system in 3 pillars. The denomination of the pillars and their deliverables are as follows:

Pillar 1: Stocktaking

- ESS interpretation of ISO/IEC definition of standard
- Types of ‘normative documents’ to be distinguished
- Structure of inventory for normative documents
- Template for description of normative documents
- Template for the assessment of normative documents
- Deliver input to the ESSnet on Standardisation

Pillar 2: Framework

- Overarching architectural framework (4 areas: policy, design, management, implementation)
- Standardisation scenarios (from minimal standardisation to full integration of processes)
- SWOT instrument (qualitative merits/costs assessment)
- Process for standard adoption, support and governance (including proposal for responsible bodies)

Pillar 3: Pilots

The task of this pillar did not materialise fully due to lack of resources. A pilot study (Census Hub) was carried out during the last months of the Sponsorship. The task of designing a process for standards adoption was moved to Pillar 2. The documents of the Sponsorship on Standardisation can be found on the CROS-portal⁴.

The Sponsorship formulated the conceptual framework for standardisation in the ESS, in the form of recommendations⁵ which were adopted at the 18th meeting of the European Statistical System Committee (ESSC) on 27th September, 2013.

⁴ <http://cros-portal.eu/content/ess-standardisation>

⁵ <http://www.cros-portal.eu/content/recommendations-sponsorship-standardisation-september-2013>

2.4 ESSnet on Standardisation

The ESSnet on Standardisation (hereafter: the ESSnet) is directly connected to the work of the Sponsorship. In order to move towards the practical implementation of the recommendations, the Sponsorship delegated tasks to the ESSnet, prior to the launch of the ESSnet project. The ESSnet focuses on the practical implementation of many, but not all, of the recommendations of the Sponsorship. As the system of the ESS standardisation is still under elaboration, the deliverables of the ESSnet support this system by developing system elements.

The ESSnet is organised in a Framework Partnership Agreement with duration of 4 years and is divided into Specific Grant Agreements. The project started its work on the 19th December 2012 with Specific Grant Agreement 1 (SGA-1) and is currently in the SGA-2 phase, which started on 13th December, 2013.

The ESSnet is coordinated by the Hungarian Central Statistical Office and is carried out in the active cooperation of 7 EU National Statistical Institutes: Hungary – HCSO, France - INSEE, Italy - ISTAT, Lithuania - SL, Latvia - CSB, the Netherlands – CBS and United Kingdom – ONS.

2.5 Coordination of ESS Standardisation

Apart from the ESSnet there are several related initiatives for which the activities and results should be taken into account, such as the development of the ESS Vision 2.0, the Task Force on Impact Analysis of the ESS.VIP projects, the Task Force on Enterprise Architecture. This dynamic environment requires high flexibility and good coordination. In the above mentioned September meeting of the ESSC, it was decided that the Directors' Group on Methodology (DIME) would be asked to develop a roadmap for the next steps specified in the recommendations of the Sponsorship and to coordinate the standardisation activities in the ESS by a Steering Group. The Joint Steering group meeting of DIME and IT Directors' Group (ITDG) decided in December 2013 to appoint a Task Force that would report to the joint plenary DIME-ITDG meeting. This Task Force on Standardisation is currently preparing proposals for the roadmap and the governance of standardisation (coordination as well as maintenance). Members of this Task Force are Eurostat and the National Statistical Institutes of France, Hungary, the Netherlands, Spain and the United Kingdom.

3 The work of the ESSnet on Standardisation

3.1 Inventory of quasi-standards and standards

As stated in the recommendations of the Sponsorship, an inventory of normative documents is one of the elements of the system of ESS standardisation. It must be structured, annotated and contain all normative documents relevant for the ESS. The inventory should offer a systematic overview which can be used for identifying domains lacking standards or checking coherence.

An important part of the work of the ESSnet focuses on the development of such an inventory (Work Packages 1 in SGA-1 and SGA-2). The project team reflected on the best way to define normative documents relevant for the ESS because this definition also marks out the scope of the inventory. The proposed scope is as follows: normative documents deliberately developed for ESS use, international normative documents which may be used at ESS level and national normative documents for which use at ESS level is promoted by the national authority. The inventory must be open to the public (to ESS stakeholders and probably outside as well) and provide detailed information (i.e. attributes) on these normative documents.

Pillar I (Stocktaking) of the Sponsorship provided as an input a list of about 600 normative documents (mostly derived from Eurostat's database, RAMON, but also from other databases like Global Inventory of Statistical Standard – GISS – developed by UNSTATS) that could be considered for the inventory. Given the limited resources, there was a need to rationalise this list. It was agreed to concentrate on the latest editions of Eurostat handbooks (or handbooks co-published by ESTAT), on international normative documents relevant for the ESS (latest editions), on IT tools recommended at ESS level and on fundamental legal acts. This selection resulted in a list of 197 normative documents which were described for the inventory according to a template covering attributes for identification, mapping, describing content, organisational issues, contacts and supporting instruments.

In a next step these normative documents were assessed in order to check whether they meet the criteria for being an ESS standard. Given the limited resources, this time intensive assessment was restricted to Eurostat handbooks, international handbooks co-published by Eurostat and IT tools. This resulted in an assessment of 103 normative documents (out of 197 which were described in the previous step). For this, an assessment sheet produced by the Pillar on Stocktaking was used. For each document, except IT tools, the following aspects

were considered: 1) is it clearly defined; 2) what is the status (e.g. established by consensus); 3) is it approved by a recognised body; 4) is the purpose both for specific activities or their results and for common and repeated use; 5) does it provide rules, guidelines or characteristics, and; 6) is it in accordance with the code of practice. For IT tools a 5 step grid was developed that contained the above criteria 1, 2 and 3 and as criterion 4) is it easily accessible and 5) is it regularly maintained. This task resulted in the observation that 27 of the 103 assessed normative documents meet the criteria for being ESS standards. This is the starting point for analyzing the situation regarding the existence of standards at ESS level.

Next to creating a first version of an inventory⁶ of ESS standards and quasi-standards⁷, the ESSnet has also provided documents describing the current content of the inventory [2], recommendations for operational issues considering the inventory [3] and guidelines on the documentation of quasi-standards definitions of crucial concepts such as ‘normative document’, ‘standard’ and ‘quasi standard’ [4].

In the currently ongoing SGA-2 phase of the ESSnet, an additional list of normative documents will be compiled for further analysis. Also the vocabulary on the important concepts of ESS standardisation will be further elaborated and there will be a recommendation for the platform and organisation on the inventory as well.

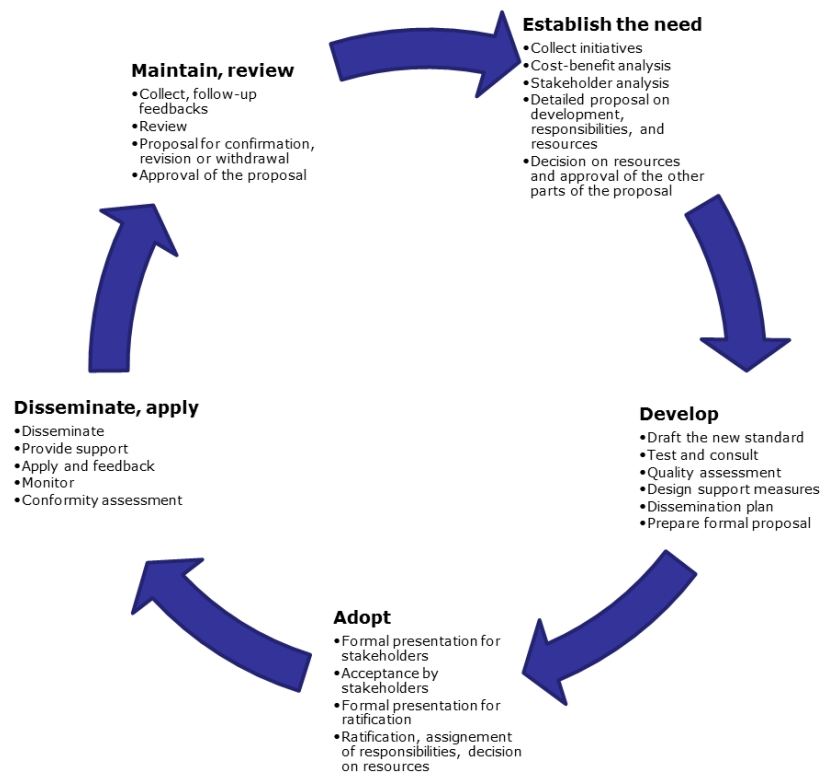
3.2 Detailed overview of variants of standardisation processes of different types of standards

As stated in the recommendations of the Sponsorship, a formalised process is needed for setting and implementing ESS standards. The Sponsorship has proposed a process that covers the full cycle of standards, from development and adoption through implementations unit withdrawal (see Figure 1). Please note that the Sponsorship has explicitly stated that development and adoption of a standard does not imply an obligation to implement.

⁶ See for a complete overview: <http://www.cros-portal.eu/content/work-package-1-inventory-standards-and-quasi-standards>

⁷ The term “quasi-standard” does not imply that a certain normative document should be converted into a standard. The purpose of this terminology is to make a distinction between normative documents which comply with some essential criteria of ESS standards and other normative documents which do not.

Figure 1. The standardisation process covers the full life cycle of standards



The ESSnet work completed so far (Work Package 2 of SGA-1) has examined possible variants of the standardisation process in correspondence with different types of ESS standards, with regard to the activities constituting the life cycle of ESS standards [5]. For this purpose, two examples of each ESS standard type (guidelines, handbooks, classifications, IT tools and others) were selected and analysed in order to verify whether the activities of the life cycle of ESS standards could be applicable. The results of this analysis confirmed that there was no need to introduce variants in the standard setting process. Also, as part of Work Package 2, a document was compiled that described principles for converting quasi standards to real standards [6]. The life cycle model is currently further developed and tested on some case studies in Work Package 2 of the SGA-2 action.

3.3 Refinement of the Business Architecture model elaborated by the Sponsorship on Standardisation

The recommendations of the Sponsorship point out that for further ESS standardisation a common approach, language and framework is needed “to describe policies, processes and interactions of the organisations of the ESS, including those of the national statistical systems” (p. 15). The ESSnet (SGA-1 Work Package 2) has described a refined Business

Architecture model [7][8]. It aims at representing an exact approach that can be adopted by any institution producing official statistics both at national and European Statistical System (ESS) level; it is thought as a starting point for a more generic Business Architecture model, shareable both within National Statistical Systems and at ESS level, and as a reference framework for all the activities related to standardisation. This model is inspired both by the approach of Statistics Netherlands (also representing a basis of the Sponsorship on Standardisation Business Architecture model) and by the international standard GSBPM (Generic Statistical Business Process Model, version 5.0).

The main developments introduced concern:

- reference definitions and concepts;
- the Business Architecture business lines, that were changed and incremented;
- the activities defined within the different Business Architecture business lines that have been aligned with those set out in the phases and sub-processes of the current version 5.0 of the GSBPM, recognised as a real standard and adopted at international level;
- the fundamental principles and the general scheme that take into account the introduction of some important innovations and several relevant international initiatives, as the launch of a coordinated programme of standardisation within the whole European Statistical System (EU vision, which is currently evolving from 1.0 to 2.0).

This renewed Business Architecture model offers an integrated view of the statistical production process that can facilitate the realisation of congruent innovation paths, by permitting the achievement of an adequate organisational flexibility, based on the independence of the Design and Implementation Business Architecture business lines.

As a matter of fact, this model allows overcoming some limits of the “as is” situation within Statistical Institutes/Organisations, for example:

- the existing information/organisational model is often very complex;
- most of the statistical processes are still organised as stovepipes, i.e. vertically integrated in silos, only partially communicating with other processes; this emphasises heterogeneity of procedural and methodological approaches, which is not always justified by the variety of the covered topics;
- there is a lack of standards regarding processes, methods and technologies;

- there is a great redundancy of data and applications;
- it is often necessary to provide ad hoc developments for the harmonisation of applications in different environments.

3.4 Cost-benefit Assessment

As stated in the recommendations of the Sponsorship (p. 17), “for important decisions in the ESS, it is imperative to make a systematic assessment of the costs and benefits implied by the decision proposed. Such an assessment is needed to ensure that the decision is sound and that it has sufficient backing among the ESS partners”.

In SGA-1 (Work Package 2) of the ESSnet, a so called ‘SWOT tool’ was developed and tested [9]. The main purpose of this tool was to collect in a qualitative but structured way each Member State’s assessment of the potential costs and benefits of different levels of ESS standardisation regarding specific activities, defined according to a reference model of Business Architecture proposed by the Sponsorship on Standardisation.

A test of the SWOT approach and of the implemented tool was carried out by ISTAT and CBS in May 2013. The results showed that both ISTAT and CBS respondents expressed some difficulties in completing the matrix, which were mainly due to the unclear concepts used, which often did not directly lead to definite implications. Based on these test results and feedback collected on other occasions (Forward-Looking Feedback Workshop on Standardisation in The Hague, on 30th-31st May, 2013; meeting of the Task Force on Impact Analysis of ESS.VIP projects in Luxembourg, on 17th June, 2013) a new proposal, the so called “checklist for the assessment of costs and benefits of standardisation” was developed as an alternative. This was not a completely new approach as it includes most aspects that were used in the SWOT tool, though structured in a different way.

The cost-benefit assessment is currently further developed and tested in the SGA-2 action (Work Package 3) in order to fine-tune the elements of the checklist and to elaborate a recommendation on the cost-benefit model and the scoring mechanism. Other ESS initiatives with respect to cost-benefit and impact assessment will be taken into account in this process. The current focus of analysis is if and how the various approaches and applications can be integrated.

3.5 Case studies on selected projects and a summary of the lessons learned

Closely related to the work started in Pillar III of the Sponsorship, the ESSnet (SGA-1 Work Package 3) conducted a number of case studies to assess examples of the development and assessment of standards and the current practices of standard-making. For this purpose a template was designed according to the life cycle model proposed by the Sponsorship [10]. The template was used to record research and interview findings and this made it easier for overall comparison of case studies.

In the SGA-1 action the case studies of Demetra+, SDMX, NACE (Rev. 2.) and ACTR were chosen. These case studies have been selected according to suggestions given by the Sponsorship on Standardisation. Interviews were conducted with various subject experts, by telephone, face-to-face meetings and written communication, over a period of time [11]. A table was produced to document the overall summary of lessons learned structured according to the five main steps of the process of standardisation (see Figure 1). The main findings of the case studies could be grouped by the following issues: project management, impact on quality and maintenance of the normative documents. It is a clear requirement to have a transparent life cycle model for the elaboration of a certain normative document and it has to be maintained on a continuous basis. For the main negative lessons learned, the inability to keep detailed costings was common to three of the case studies, no direct references to Quality Assessment in the normative document can perhaps be seen as an omission and some linguistic problems have been identified. In the SGA-2 phase of the ESSnet on Standardisation ongoing initiatives are selected in order to test further the life cycle model and the cost-benefit assessment of the ESSnet on Standardisation.

3 Conclusion

The ESSnet on Standardisation provided deliverables as from the outcome of the SGA-1 action that are the practical implementations or further development of the elements proposed by the Sponsorship on Standardisation for standardisation in the ESS. These deliverables are building blocks for the future system of ESS standardisation, as defined by the ESSC-adopted recommendations of the Sponsorship.

The ESSnet on Standardisation is currently in the second action (SGA-2). As ESS standardisation is a strategic issue at ESS level and the ESSnet on Standardisation is directly

or indirectly connected to many other initiatives at ESS level, feedback is sought and active cooperation with such initiatives is desired.

ESSnet partners cooperating in the ESSnet on Standardisation are interested in receiving feedback on the goals, deliverables and other actions of the ESSnet project. The deliverables of the SGA-1 action, as well as the description of the SGA-2 action are available on the CROS portal at <http://www.cros-portal.eu/content/standardisation>.

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