

Slovak National Statistical System - assessment of selected coordination tools

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Abstract

An effectively functioning and integrated national statistical system is a prerequisite for decision-making, policy-making and sustainable development of any country.

The Slovak National Statistical System has undergone significant changes in terms of coordination over the last two years. The latest amendment to the Act on State Statistics has strengthened the position of the Statistical Office of the Slovak Republic as the coordinator of the NSS. With regard to the main objective of coordination - to build a metadata-driven, quality-driven and product-driven NSS – such conditions and tools were created to facilitate the standardisation of selected activities of the statistical production process, as well as the management of metadata and statistical outputs.

Our paper seeks to further specify and assess selected coordination tools, namely the **Coordination Council for State Statistics**, which acts as an expert coordinating body for issues related to the performance of the tasks of state statistics by other authorities performing state statistics; then the **Unified Information System of State Statistics**, a new information tool designed to simplify and, more importantly, unify specific statistical activities across the NSS; and finally, **methodological audits**, the implementation of which serves to assess the quality and performance of both individual members of the NSS and the NSS as a whole.

From the point of view of the Statistical Office of the Slovak Republic, the role of the coordinator and the performance of coordination brings a number of challenges, but also interesting opportunities. At a time when quality and accurate official statistics are competing with fast data, it is crucial that NSIs are able, through promoting reliability, impartiality and objectivity, professional independence, and quality, to act as trustworthy institutions serving society, while at the same time, through innovation, continuously moving forward and seeking new approaches and new users of statistics.

Keywords: national statistical system, coordination tools, standardisation, quality

1. Introduction

The increasing demands and new challenges that National Statistical Institutes (NSIs) face in terms of innovation and quality require an increasing degree of coordination between the relevant partners. A successful outcome is preceded by a thorough preparation and understanding of the assignment, which is related to the basic terminology that we address at the outset.

The term coordination has its origins in Latin, specifically in the word *coōrdinātiō*, composed of *con-* ("together") and *ōrdinātiō* ("arrangement, regulation"). According to the Dictionary of Modern Slovak Language (Jarošová, 2011), the term coordination means "bringing into harmony mutually related activities, components, etc.; matching, harmonizing".

In our case, the result of coordinated interrelated activities is official statistics, a term used to refer to numerical information, i.e. data, about various phenomena that affect the development and well-being of people. They are compiled, processed and published systematically and regularly by national authorities, which do so with the aim of describing demographic, economic, environmental and social developments in individual countries. Users of official statistics range from political leaders and various government agencies and institutes, to representatives of the business community, the media and, last but not least, the general public.

The national authorities responsible for the collection, production and dissemination of official statistics together form the National Statistical System (NSS), which are a natural part of the data ecosystems of each country. Data ecosystems are defined as "complex adaptive systems that include data infrastructure, tools, media, producers, consumers, curators, and sharers. They are complex organizations of dynamic social relationships through which data/information moves and transforms in flows." (Bhargava et al, 2015). Ensuring consistency and efficiency of processes and outputs among data producers in the context of a data ecosystem or NSS is a major goal of coordination.

2. Slovak National Statistical System

According to the OECD Glossary of Statistical Terms, a "NSS is the ensemble of statistical organisations and units within a country that jointly collect, process and disseminate official statistics on behalf of national government" (OECD, 2008). In addition to the Statistical Office of the Slovak Republic (hereinafter referred to as "SOSR"), the Slovak National Statistical

System is also composed of other authorities carrying out state statistics¹ (hereinafter referred to as "ONAs") (Figure 1).

Figure 1: NSS members



The National Statistical System of the Slovak Republic has undergone significant changes in the last few years in response to the development of the data ecosystem, within which new demands have been increasing and emerging not only on the members of the NSS, but especially on SOSR as a coordinator.

In 2019, the Statistical Office of the Slovak Republic completed the project Reform of data collection in public administration. It proposed a general framework for the coordination of the NSS and its main goal, namely to build a metadata-driven and quality-driven and product-driven NSS for statistical processes and products.

¹ Term state statistics is still used in our current Act on state statistics. A modification of the terminology is expected in the new forthcoming Act on Statistics where term official statistics will be used.

In order to achieve the stated objective, the main focal points of the coordination were identified, namely:

- **Quality** – which requires defining quality and performance standards for the NSS, monitoring the quality of statistical outputs by producing quality reports on individual outputs, as well as promoting continuous improvement; all in line with the Code of Practice for European Statistics (EC & Eurostat, 2018);
- **Standardisation and harmonisation of processes** – within the statistical production of the NSS, the focus is on the Generic Statistical Business Process Model (GSBPM) phases of Specify Needs (1), Design (2), Disseminate (7) and Evaluate (8);
- **Quality of products** – mainly related to the fulfilment of the obligations of the NSS members towards users through the outputs they produce, with regard to their availability, relevance to the different target groups, accuracy and, last but not least, clarity;
- **Harmonisation of metadata** – meaning the identification of the necessary metadata (concepts, definitions, codes and classifications, registers and qualitative/procedural indicators) to be collected within the NSS and the definition of a metadata management system.

The legislative basis is a prerequisite for making changes to the NSS. The last amendment to the Act on State Statistics strengthened the position of SOSR as the coordinator of the NSS. A Coordination Council for State Statistics was established, which will be discussed later in the evaluation of selected coordination tools. Furthermore, the scope of coordination activities was defined, the competences of other authorities performing state statistics were specified, and the Uniform Information System of State Statistics (hereinafter referred to as the 'JIS ŠÚ') was defined as one of the instruments of standardisation and coordination.

According to Act No. 540/2001 Coll. on State Statistics, as amended (hereinafter referred to as the "Act on State Statistics"), the Statistical Office of the Slovak Republic coordinates the fulfilment of the tasks of state statistics by other authorities performing state statistics through:

- statistical planning and reporting on the implementation of the statistical plan,
- the development of a basic methodological framework and a quality framework for state statistics,
- providing methodological guidance to ONAs in the development, production and dissemination of state statistics,
- monitoring the quality of state statistics and compliance with the basic principles of state statistics,

- determining how statistical data are transmitted and disseminated.

The legislative definition of the coordination and role of the Statistical Office of the Slovak Republic has also made it possible to implement important institutional measures. A 'Central Coordination Unit' was created, consisting of the newly established NSS Coordination Unit within the General Methodology, Registers and Coordination of NSS Directorate and selected staff of the Production as well as Dissemination and Communication Directorates.

The primary tasks of the NSS Coordination Unit include:

- coordinate the provision of tasks by the authorities responsible for the performance of state statistics, in liaison with the Coordination Council and the designated departments of SOSR,
- compiling the NSI coordination plan,
- evaluate the implementation of the coordination plan and report the results to the management of the Statistical Office of the Slovak Republic and the Coordination Council for State Statistics,
- planning, organising and evaluating methodological audits in accordance with ISO 9001,
- planning and providing competency-based training in the field of state statistics,
- maintain and update the National Quality Guidelines of the NSS as a basic standardisation tool for ensuring the quality of statistical processes and outputs,
- monitor the production, dissemination and completeness of quality reports for users.

In addition to the Central Coordination Unit, to ensure the coordination role of SOSR, the function of the Chief Statistician of the NSS was also established, which ensures professional activities related to the coordination of the performance of tasks of state statistics by other authorities performing state statistics within the NSS, among others:

- develops a strategic direction for the coordination of the NSS draft,
- identifies the processes necessary for the coordination of the NSS and proposes to the President of SOSR measures for their maintenance, development and for the correction of deficiencies,
- manages the creation and development of the basic methodological and quality assurance framework for state statistics,

The Director General of the General Methodology, Registers and Coordination of the NSS Directorate holds this function at the Statistical Office of the Slovak Republic.

3. Coordination tools

The main coordination tool is the statistical programme. In the conditions of the Slovak Republic, the Statistical Office of the Slovak Republic in cooperation with other authorities performing state statistics compiles the Programme of State Statistical Surveys (hereinafter referred to as "Programme"), which is harmonised with the European Statistical Programme (EU Regulation 2021/690) in terms of statistical data collection. It is a generally binding legal regulation containing state statistical surveys organised and carried out by SOSR and other authorities carrying out state statistics, which is issued by a decree in the Collection of Laws of the Slovak Republic for a three-year period. The coordination of the Programme is aimed at achieving efficiency - avoiding duplication of the same activities, and reducing the response burden - avoiding duplicate collection of the same data.

In addition to the Programme itself, coordination tools include the Coordination Council for State Statistics, an integrated information system, methodological audits, training and educational activities, and the web-based collaboration wiki platform Confluence.

3.1 Coordination Council for State Statistics

The Coordinating Council for State Statistics (hereinafter referred to as the "Council") was established by the latest amendment to the Act on State Statistics. The Chairman of the Council is the President of the Statistical Office of the Slovak Republic and its members are representatives of all authorities carrying out state statistics. The Act, the Statute and the Rules of Procedure of the Council precisely define the manner and periodicity of its meetings and also define its members. In a sense, the predecessor of the Coordination Council was the Statistical Council, which, however, failed to translate theory into practice and its meetings did not bring as much added value to the members of the NSS as was intended. On the contrary, thanks to the commitment of the Chief Statistician of the NSS and the new NSS Coordination Department, the meetings of the Coordination Council have increased their frequency from minimum required one, to four per year. Even more important than the increase in the frequency of meetings is their increasing quality. Representatives of SOSR, together with Council members, use the meetings to share knowledge and information related to the performance of state statistics. At the same time, it is an ideal venue for addressing the various issues that Council members encounter.

Despite the legislative support and the unquestionable added value of the Council meetings, shortcomings and problems have also emerged. One of them, for example, is the lack of transfer of information from the ONAs representatives who participate in Council meetings to their colleagues and subordinate departments. This is mainly due to the fact that the organisational units responsible for carrying out the tasks of state statistics represent a very

small organisational unit in each ministry and their activities are only a marginal matter in the context of the remit of the ministries. Section 10 (2) of the Statistics Act states that „The members of the Coordination Council shall be representatives of all authorities carrying out official statistics“, and Section 11 (3) „Other authorities carrying out state statistics shall adapt their organisational structure and organisational rules to the obligation to ensure the performance of the tasks of state statistics, in particular by (a) designating at least one person in the capacity of a senior civil servant who is responsible for the performance of the tasks of state statistics; (b) designating the organisational unit responsible for the performance of the tasks of state statistics“².

Despite this formulation, practice is different. The voting members of the Council tend to be senior officials nominated by ministries from departments which, although hierarchically superior to the departments carrying out the tasks of state statistics, do not know their real needs and are therefore unable to assess the relevance of the information and knowledge discussed at the Council meetings. Consequently, there is a breakdown in the communication channel, which has an impact on the lack of information of some departments carrying out state statistics.

This risk was identified by the SOSR during the methodological audits. The solution could be to focus on better implementation in practice, which would also be facilitated by increased communication between the Statistical Office of the Slovak Republic and ministries on the needs of official statistics.

3.2 Unified Information System of State Statistics

The need to have a single integrated information system, which would serve both the SOSR as a tool for coordination of the NSS members and the members of the NSS themselves through harmonisation and standardisation of statistical processes, became more and more urgent in direct proportion to the increase in the requirements for the entire NSS. The introduction of the common information system enables SOSR to obtain more data on the functioning of the NSS, to analyse it and, on the basis of this data, to make adequate decisions leading to the improvement of the functioning of the whole NSS.

As in the case of the Coordination Council, the Unified Information System of State Statistics (JIS ŠÚ) is supported by legislation. Pursuant to Section 12a of the Act on State Statistics, the

² Act No. 540/2001 Coll. on State Statistics

JIS ŠÚ serves to standardise, coordinate and evaluate the statistical outputs of the authorities carrying out state statistics³.

The new software tool consists of a public and a non-public part. The public part is accessible via the SOSR's website and contains information, data and documents from the field of state statistics. On the other hand, its non-public part is accessible only to the NSS members and contains tools and functionalities necessary for conducting and processing state statistical surveys, evaluation of compiled statistics, as well as a platform for official communication between the authorities participating in the preparation and implementation of the Programme of state statistical surveys.

Other authorities carrying out state statistics are obliged by law to use unified information system for:

- a) carrying out activities related to the planning, preparation and compilation of the programme of state statistical surveys,
- b) disseminating statistical products,
- c) evaluating the quality of the statistics produced.

To begin with, the original intention was to create an integrated system covering all phases of the GSBPM model. However, for a number of reasons - mainly due to lack of funding - this has not been done and the result is a system that allows for the specification of needs and the design of a statistical survey (phases 1 and 2) and the dissemination and evaluation of the statistical outputs (phases 7 and 8). Testing of the different modules of the system and pilot operation has been ongoing for almost the whole of 2023, without the involvement of ONAs yet. The real start-up of the production environment only started during April or May this year. As an example, we can use the creation of quality reports for users. Based on the Decree on the management and quality of compiled statistics issued by the Statistical Office of the Slovak Republic (2023), the legislative obligation to produce quality reports for users has started for all members of the NSS as of 1 January 2024. The main benefit of the Decree lies in the legislative support for the production of quality reports for users. This gives SOSR a tool to motivate other authorities to produce quality reports for users for their public products in both Slovak and English and in the Single Integrated Metadata Structure (Eurostat, 2021). Currently, the module of the new information system for the production, control and dissemination of quality reports for users is being made available to the members of the NSS. For several of them, producing quality reports for users in two languages is a completely new activity that they have not done before.

³ Act No. 540/2001 Coll. on State Statistics

The use of JIS ŠÚ as a full-fledged coordination tool will therefore only be possible once all modules are in live production, which we believe should be completed during the course of this year. Only then will the Statistical Office of the Slovak Republic actually have access to data on the functioning of the NSS, which will be instrumental in the fulfilment of the coordinating role that SOSR plays.

3.3 Methodological audits

Methodological audits are another coordination tool. This is a very recent matter, as the first ones took place in 2023. Methodological audits have a legislative basis in the Act on State Statistics, where they are defined as part of the quality management performance. Within the NSS, they focus on the area of methodology and procedural practices and their performance will be carried out progressively across all NSS members.

The aim of the audits is to verify the state of internal documentation of the NSS members and its compliance with the common NSS guidelines as well as the actual compliance of the practices carried out against existing, prescribed working procedures, formal standards and obligations related to the NSS membership. Particular emphasis is placed on assessing the compliance of the documentation and statistical activities performed by the members of the NSS with the Code of Practice and the National Quality Guidelines of the NSS.

The Statistical Office of the Slovak Republic draws up an audit plan for a 5-year period, which is subsequently elaborated in more detail for a period of 1 calendar year. The plan includes the number of audits to be carried out for a given year, the identification of the audited entities and the subject of the audit. Within the 5-year cycle, a methodological audit shall be carried out at least once for each member of the NSS.

As mentioned above, the first methodological audits were carried out during 2023 on two members of the NSS. They focused on the use of appropriate methodological procedures and, as part of this, on further improving the quality of surveys and increasing the efficiency of resource deployment. The results from the audits were diametrically opposed. For one member, the need to develop methodological documentation for the processing of surveys was identified where the method of checks and edits for collection was not sufficiently established or where, for example, calculations of quality indicators were missing. At the same time, there was a lack of transfer of information on coordination activities and information from the Coordination Council meetings to the individual departments carrying out the performance of state statistics in practice. On the contrary, the second audited member of the NSS demonstrated high professional competence as well as very good cooperation and information exchange with SOSR. This difference is mainly due to the poor communication between the chief statisticians appointed by the ministries who attend the Council meetings and the specific

units carrying out the collection, production and dissemination of official statistics. A common recommendation for both audited entities was related to the undertaking of professional training organised by SOSR in the framework of the coordination of the NSS, especially in the areas of design and processing of sample surveys, calculation of quality indicators and production of quality reports for users.

4. Conclusion

The implementation of the coordination tools we evaluated in order to harmonise, standardise and improve the overall quality of the functioning of the NSS is understandably a longer-term process. We dare to say that we have managed to get the first steps right. Important legislative changes have been made, and the focus is on the application of the different parts of the coordination system in practice. Following the successful launch of the new integrated information system and taking full advantage of coordination tools such as the Coordination Board and methodological audits, it is expected that the quality of outputs, processes and products of the NSS members will improve, which will have a positive impact on the state of official statistics.

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