2020 Asia–Pacific Statistics Week

A decade of action for the 2030 Agenda: Statistics that leaves no one and nowhere behind

15-19 JUNE 2020 | Bangkok, Thailand

2020 Asia-Pacific Statistics Week
Seminar Component
Bangkok, Thailand, 15 – 19 June 2020

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Topic of seminar to which your abstract relates*:*

Action Area D. Modernizing statistical business processes.

Title of paper:

Overall Review of Statistical Production Processes from the GSBPM perspective: The Case of Kyrgyzstan

Abstract

The statistical production processes of the National Statistics Committee (NSC), inherited from Soviet era, have not yet undergone significant changes and considered quite ineffective and cumbersome. In 2018, under the support of Statistics Norway, the NSC decided to make an overview of the existing production processes and workflows from the perspective of the GSBPM (the Generic Statistical Business Process Model), find ways for aligning processes/workflows with the GSBPM and make them more efficient and streamlined.

The project brought together various staff members that come from different levels of the NSC: staff from regional offices in charge for data collection and contacts with respondents; staff in charge for data processing from the Main Computing Center (MCC) and IT staff; and the methodology staff from the central office of the NSC. They all worked together for about two months with an attempt to make an overview and document all production processes that take place at all levels of the NSC system. Moreover, the staff members were also tasked with identifying the existing weaknesses in production processes from different angles and propose solutions together.

The NSC had never documented statistical production processes before and, therefore, this project was a first attempt to have this in place for all the staff members, and in particular, for newcomers who are not familiar well enough with the way the NSC produces statistics.

As a result, the project produced comprehensive documents that map and document processes, identify structural weaknesses and relevant solutions that are summarized in this paper. This outcome could potentially be used as a key input for perspective projects on transformation of the entire production system of the NSC. In the course of the project, staff members had improved their knowledge of quality assurance and the GSBPM and become more quality conscious.

Keywords: Quality assurance, teamwork, documentation, production system streamlining

Contents

1. Introduction

The Law of the Kyrgyz Republic on Official Statistics states that the NSC is the authorized state body in the area of official statistics and leading producer of official statistics, ensuring coordination of activities on development, production and dissemination of official statistics in the National Statistical System (NSC, 2019).

The NSC has a four-level system for statistical data production: 1. The NSC central office level; 2. the Main Computing Center (MCC) level; 3. Regional offices (9 regional statistical offices); 4. Local offices (49 district and town statistical offices).

Regional and local offices are mainly in charge for data collection and data entry, while the MCC receives and processes data coming from regions, carries out data quality checks, produces output statistics (output tables) and provides them to the central office for further analyses and dissemination among key users of official statistics.

Figure 1. The NSC data flow and production chain
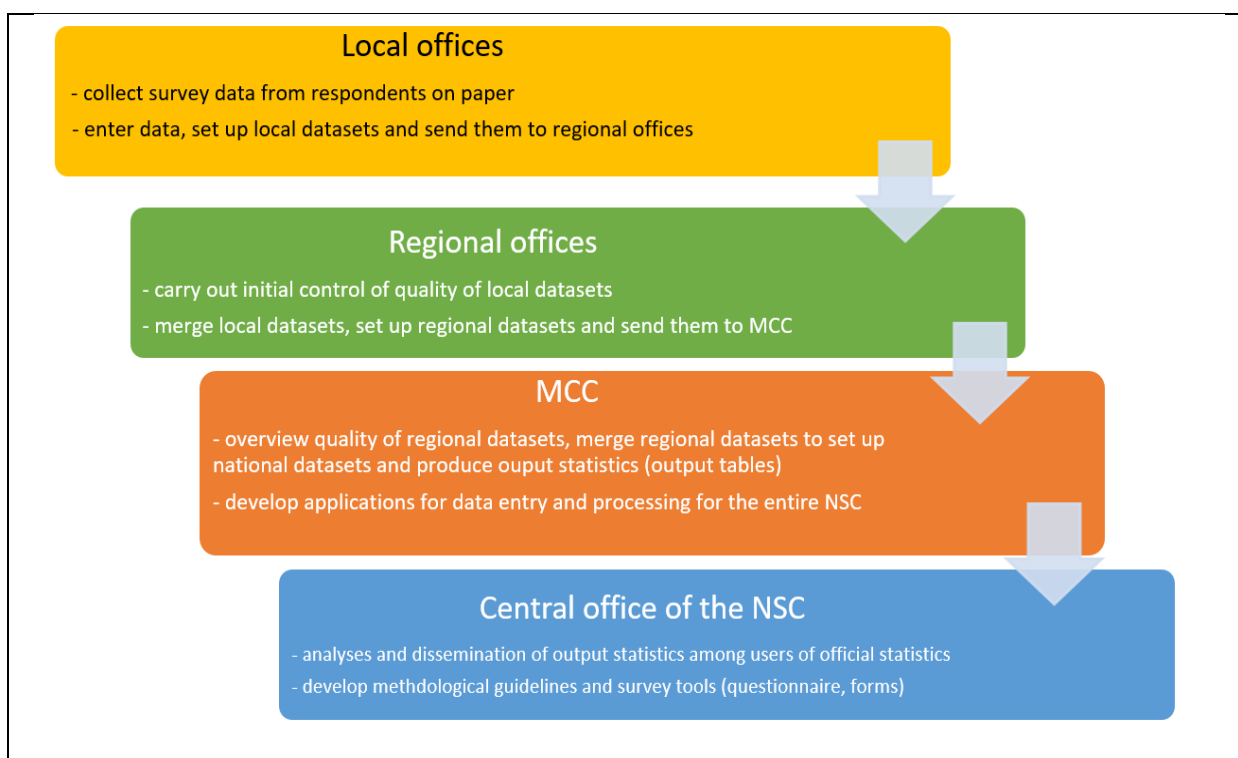
As the figure shows, the NSC has a rather complex system with various subdivisions involved in production of official statistics. This system for production of statistical data needs to be modernized and streamlined using the best practices of other national statistical agencies, but before implementing these efforts, the management of the NSC KR took the decision to make a diagnosis and documentation of the existing production system based on certain international models for production of official statistics and, namely on the GSBPM. Every detail of all production processes must be documented according to internationally accepted standards so that the knowledge is made firmly resident in the organization and not person-dependent (D. Salgado and A.I. Sanchez-Luengo, 2016). The management also decided that outcomes of the above efforts would lay a foundation for defining a way forward for further modernization of the production system of the NSC.

With the aim to achieve the above goal and initiate the so-called quality assurance efforts, the management of the NSC decided to set up a specific project group comprising of key staff members of the NSC and few consultants from Statistics Norway, which is a long-term cooperation partner of the NSC. In particular, the project group was responsible for introduction of the GSBPM to the NSC staff and setting up a specific framework for making an overall review and documentation of production processes that take place at different subject matter areas.

In the course of initial project planning and interviews with subject matter specialists, project group members revealed that specialists from the central office often did not have full overview and understanding of processes and workflows at MCC and regional offices, while the same was true for specialists of MCC and regional offices regarding processes and workflows taking place at the central office level. Therefore, the project group decided to bring together various staff members that represent all four levels to be able to have a comprehensive and good overview of production processes. The project group members were also of the opinion that this interaction would also help ensure exchange of knowledge and experience as well as improve communication among various staff members and relevant subdivisions.

The project group worked together with staff members of all subject matter areas of the NSC for about two months with an attempt to make an overall overview and document all production processes starting from specification of users' needs to evaluation of the entire production lifecycle guided by the GSBPM sub-processes. This assignment was kind of a self-assessment of production quality conducted by the staff responsible for relevant statistical processes.

2. Methodology

The project group members started with a series of introduction workshops organized for staff members involved in the project. The workshops presented overall objectives of the project, introduced staff to issues of quality assurance and its importance for the NSC. In the course of workshops, project group members focused on the GSBPM and, in particular on introduction to each phase and sub-process of the GSBPM. The detailed description of the GSBPM available at https://statswiki.unece.org/display/GSBPM/GSBPM+v5.0 was used as a key guiding document during workshops and project implementation phase.

The project group members had proposed a template for subject matter specialists to describe and document the processes. The proposed template comprised of the following sections:
- Section 1: Background (overall information on subject matter area, statistics produced, data collection mode, sample or full-count survey, frequency, respondents, units and subdivisions involved in data production etc.);
- Section 2: The overall mapping of statistical sub-processes i.e. all sub-processes of the NSC (as they are) put in a sequential way broken down by the GSBPM phases in a flow-chart type (sub-processes numbered and listed in a flow-chart);
- Section 3: Detailed description/documentation of each sub-process as per the following structure:
    - A detailed AS-IS description of the current sub-process;
    - Weaknesses identified in each sub-process;
    - Recommended actions and solutions to address the weaknesses.

Before starting to document relevant production processes, staff members from each subject matter area had brainstorming sessions to discuss and discourse on production processes that take place at each level of the NSC system guided by the GSBPM description of phases and sub-process. They were also supposed to specify the differences of current production sub-processes from the GSBPM sub-processes, if any, and explain reasons for these differences. The project group members were the ones who facilitated discussions and ensured that each subject matter specialist takes an active part in the discussions and shares his/her own experience and vision with others. Following these brainstorming sessions, subject matter specialists started doing an overall mapping of statistical sub-processes on wall posters for further presentation to project group members. They mapped each sub-process in blue color cards, while the weaknesses were mapped in red color cards as shown in below pictures:

After the overall mapping and their presentation, subject matter specialists drew an overall process chart that would present the entire production process.

The final phase of the assignment was to document in details all sub-processes as per section 3 of the template. This part of the assignment was the most time-consuming and required a good teamwork. Subject matter specialists documented every sub-process they were in charge of, including the weaknesses identified in the course of brainstorming sessions. As for recommended actions and solution to address the weaknesses, it was proposed that the entire group should come up together with those recommended actions or solutions.

The project involved around all subject matter departments of the NSC and, as a result, each subject matter department produced a comprehensive document that maps and provides quite a detailed description and documentation of production processes with weaknesses and relevant solutions. All these documents had been posted on the intranet of the NSC, which is accessible for all 800 staff members of the NSC, including staff from regional and local offices.

3. Results

Overall, the project was quite successful in its efforts to engage other staff members in teamwork and provide them with tools to perform own assessment of the quality of processes and products they are in charge of.

In particular, the project had retained the following positive results:
- A technique to describe and document production processes proposed;
- Staff members coming from different levels of the NSC system understand overall processes taking place in different levels of data production much better now;
- Communication and understanding between staff members coming from different levels of NSC system improved;
- Everyone is better aware of the end-product at each level;
- Structured documentation of production processes available for the entire team of the NSC system, and in particular for new-comers;
- Staff members of the NSC system have better understanding of the GSBPM and became more quality conscious;
- Finally, it was a great brainstorming exercise!

A key outcome of the project was providing the opportunity to staff of the NSC to discourse on and identify the existing structural weaknesses the NSC is facing in the course of the statistical production and most importantly to get them involved into the process of developing solutions to those weaknesses. Giving the opportunity to the staff to identify the weaknesses and come up with their own solutions has an important psychological aspect as it gives a clear signal to the staff that the management values their opinion and wants them to get engaged with addressing the weaknesses together. A summary of key weaknesses and solutions is presented in the below table:

Table 1: Weaknesses and solutions

Phases	Weaknesses	Solutions
Specify needs	- Too much focus on government users' needs and weak interaction with other key users to properly consult and confirm their needs; - No one is certain if all the statistics produced by the NSC is relevant and demanded by users. *Outcome: Very high burden on respondents and failure to meet existing and emerging needs of users adequately!*	- Need to set up a system for regular user-producer dialogue to properly consult and confirm users' needs; - Set up a system for making regular assessments of relevance of statistical outputs.
Design	- No methodology department with competence for the whole NSC; - Poor interaction among subject matter units and with owners of administrative sources and failure to reuse services, systems and databases in design phase (stove-pipe approach); - Lack of common metadata system integrated with data production systems.	- Set up a strong methodology department to support and ensure interaction within and outside of the NSC to design common data production systems; - Set up a common metadata system.
Build	- Collection, processing and dissemination tools and applications are built in isolation for each subject matter area (stove-pipe approach); - Lack of common metadata system integrated with data production systems.	- Change communication and interaction between subject matter and IT people to integrate and reuse existing systems and datasets; - Set up a common metadata system.
Collect	- Paper-based data collection system is expensive, inefficient, time-consuming and affects quality of statistics; - Administrative data are not widely used, data collection overlaps, survey forms are long and extensive; - Lack of common metadata system integrated with data production system.	- Set up a central on-line data collection system integrated with administrative data systems and remove data collection overlaps; - Set up a common metadata system.
Process	- Data processing overlaps at different levels of the NSC KR (local offices, regional offices, MCC); - Lack of common metadata system integrated with data production systems.	- Set up a central data processing system; - Set up a common metadata system.
Analyses	- Inadequate quality of analytical materials and low competence in data analyses; - Lack of common metadata system integrated with data production systems.	- Strengthen the analytical capacity of staff and introduce new data analytical tools; - Set up a common metadata system.
Disseminate	- Lack of single metadata and statistical output systems ready for dissemination; - Low capacity in data visualization and dissemination through new channels (social media); - Weak communication with users and complaints about user-friendliness of statistics.	- Set up statistical outputs system; - Build capacity in data visualization and dissemination via new channels; - Set up regular contacts with users to ensure user feedbacks are taken into account.
Evaluate	- No Quality Management (QM) system in place; - No QM Department in charge for evaluation of statistical business processes and setting up specific action plans to assure quality.	- Set up a QM system and promote a quality conscious culture; - Set up a QM department with staff committed for QM issues.

4. Discussion, Conclusion and Recommendations

The project initially focused on mapping and documenting the existing production system (AS-IS model) and in the course of project implementation the management of the NSC once again verified the need to follow up on what had been done and take it to a new level. Based on the outputs of the project, the NSC took a decision to move to the next phase of the project i.e. moving towards modernizing and streamlining of production processes and implementing changes, and eventually to defining the so-called future production system (TO-BE model). It is worth noting that the success of further steps will primarily depend on the ability of the institution to ensure continuous quality in the statistics production, pursue and build a quality conscious culture in the institution.

Some of the project results, in particular inputs on the weaknesses and solutions, had already been incorporated in relevant annual and multi-year statistical programs and perspective project proposals on transformation and reform of the entire system of the NSC that shall be funded by international organizations or other national statistical institutions through bilateral cooperation programs.

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