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Topic (i): Metadata in a Corporate Context

**MANAGING METADATA SYSTEM PROJECTS:
EXPERIENCES OF THE CZECH STATISTICAL OFFICE
Supporting Paper**

Submitted by the Czech Statistical Office, Czech Republic¹

I. AIM OF THE PAPER

1. The goal of this paper is to inform about past failures in developing and managing statistical metadata projects, and to demonstrate new management principles and approaches in creating a statistical metainformation system.

II. LESSONS LEARNED FROM THE PAST

2. The first statistical metadata project in the Czech Statistical Office began in the early 1980s. It concentrated on statistical classifications and statistical variables. The goal of the project was to improve e-production of statistical data.

3. The need to develop systematic metadata was initiated by information technology (IT). Subject matter statisticians and methodologists did not systematically cooperate in project development. The small metadata unit created for this purpose did not have sufficient authority to decide or solve all the cross-cutting issues accompanying the development and implementation of the metadata project.

4. Several attempts have been made to introduce this project into the broad statistical practice, but all of them have failed. The major reason was that the content part of the project was never approved by the top management, and thus there was no commitment from the subject matter statisticians and methodologists to use metadata in their activities. Partially positive results in IT production were not sufficient and very often led to keeping duplicated metadata descriptions of statistical classifications and variables.

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5. The reasons for such dissatisfying results were:
 - a. The work on metadata project started in the ICT department without a clear and accepted vision.
 - b. The subject-matter statisticians were not involved in the topic; support from their side was completely missing.
 - c. The organizational framework of the project was not clearly specified
 - d. The top management was not well informed about the project and their support of it was very low.
 - e. There was limited general knowledge of the project inside the office.

III. NEW MANAGEMENT POLICY

6. The top management of the CZSO introduced a new policy in 2003 for the development and implementation of key statistical tasks. It defined the main development topics for statistics and launched new management methods of those projects.

7. In 2004 the top management launched a new project called *Reform of Statistical Survey System*. A project team and steering committee were established. Another key project - *The Public Database* - was approved, including its project team and coordination committee.

8. In early 2005 the top management approved a Conception (vision) of the *Statistical Metainformation System* (SMS). Several SMS project teams and steering committees were created. The development of the project was launched.

9. A management board for all above-mentioned projects was established. The top management directly supervises all activities of the management board. Their direct control of the development, follow-up and progress achieved in the projects, brought positive results in a relatively short time. Coordination in the development of all projects was ensured. Systematic involvement of CZSO's middle management was established.

IV. MANAGEMENT OF THE SMS PROJECT

10. The following 3-level management hierarchy was established for the development and implementation of the SMS project:

- a. The first level: the project teams established for individual subprojects defined in the Conception of the SMS. Project teams are composed of subject-matter statisticians, methodologists and IT experts.
- b. The second level: the SMS Task Force supervising and coordinating activities of the project teams. The Task Force is composed of the heads of the project teams, selected representatives of the middle management and head of the newly established SMS unit (head of the TF).
- c. The third level: The SMS Steering Committee. It is appointed by the top management and is composed of the directors of the subject matter statistical departments, a representative of the top management responsible for the methodology and SMS and the head of the SMS Task Force. The Vice-President of the CZSO chairs the Steering Committee and reports the outcomes of their meetings to the top management board.

11. **The SMS project teams** prepare basic documents (subject-matter and technical specifications) for the development of individual SMS subprojects. Each project team coordinates and organizes the work on the subproject. It also coordinates cooperation with subject matter departments and organizes workshops, seminars and training for statisticians and other staff of the CZSO.

12. **The SMS Task Force** coordinates the work of individual project teams and discusses and approves the documents prepared by them. They also prepare regular progress reports on results reached during last three

months, which are submitted to the SMS steering committee. Every progress report contains the evaluation of the previous 3-month period of work, indicates problems arising and outlines decisions expected by the steering committee.

13. **The SMS Steering Committee** meets every three months. It controls the progress achieved in SMS development, considers any problems, decides on solutions and approves composition of the project teams and the timetable for further work. They review the progress reports, approve the results of the work and consider and approve proposed changes in the individual SMS subprojects. The committee submits its draft conclusions to the top management board meeting and submits the progress report and minutes of their meetings to the top management.

V. CONTENT OF THE SMS PROJECT

14. The SMS Conception defines major functions of the SMS in the statistical organization. It determines the subjects of metadata description and defines the SMS sub-projects. The following SMS sub-projects are planned:

- a. Statistical classification;
- b. Statistical indicators (variables);
- c. Statistical task and statistical surveys;
- d. Administrative data;
- e. Statistical data repository;
- f. Respondents;
- g. External users;
- h. Dissemination;
- i. Knowledge base on statistical information system.

15. Furthermore, a special subproject – Global Architecture of the SMS (GA-SMS) – is under the development. Its goal is to define a unified architecture for all system and application functions.

16. When developing a GA-SMS, an urgent need to standardize major processes conducted by the CZSO arose. Special research work was launched for this purpose. One of the key processes identified was the collection, production and dissemination of statistical data. For effective functioning of this process the SMS tools are desperately needed. The SMS functions should support all activities of this key process. User friendliness of SMS tools should be ensured.

VI. MAJOR FINDINGS

17. The recent experience in the SMS development allows to make the following findings and/or recommendations:

- a. Permanent supervision of the SMS by the top management is a necessary precondition to make the project a success story.
- b. Regular follow-up of the SMS development and reporting on the results of the SMS subprojects are an important part of the project management.
- c. Systematic cooperation with statistical subject-matter experts and methodologists is inevitable.
- d. Focus on the subject-matter topics and use of SMS tools in the statistical practice is advisable.
- e. Importance of training and transfer of SMS know-how. The SMS methodology and organization of the work must be addressed. Users benefits should be clearly presented.
- f. Sharing information and knowledge between the SMS project teams (the intranet proved highly effective for this); and wide availability of information about the SMS development to statistical staff brought positive results.

VII. STATE- OF- ART OF THE SMS

18. In the time being the following SMS sub-projects are under the development: (i) GA-SMS, (ii) Classifications, (iii) Statistical Indicators and, (iv) Statistical Tasks and Surveys.

19. **Sub-project GA-SMS.** The preparation of functional specifications is under way.

20. **Sub-project Classifications.** Functional specifications including the classification model were approved. Technical specifications have been developed and approved. Revision and transition of the old classification system into the new one is on the way. Guidelines for all partners involved in the content administration of the subsystem are under preparation. Development of application software was launched.

21. **Sub-project Statistical Indicators (variables).** Functional specifications including metadata model for the description of statistical variables were developed and approved. Preparation of training workshop for subject-matter statisticians is under way. The aim of the workshop is to ensure sound understanding of the methods and techniques used by statisticians for defining and describing statistical variables, before starting such an exercise.

22. **Sub-project Statistical Tasks and Surveys.** Functional specifications are under preparation.

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