

Case study: State Statistical Committee of the Republic of Azerbaijan

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Contact person*	Yusif Yusifov
Job title	Deputy Chairman
Email	yusify@azstat.org
Telephone	

Summary*

Metadata strategy

On 15 February 2012 the Board of the State Statistical Committee (hereinafter referred to as Committee) of the Republic of Azerbaijan confirmed the "Plan of Actions on creation of Quality Management and Metadata System in the State Statistical Committee for 2012-2013" (**Plan of Actions**) by its decree # 4/2. In accordance with the **Plan of Actions** the complex implementation of essential activities became possible in the field of statistical metadata system (hereinafter referred to as SMS).

The experience shows that statistical classifications related to metadata standards in the Committee are applied since 1996, the register of statistical units consisting of subregisters of legal persons, natural persons and persons received land share is conducted since 1995. And that gives evidence of partially presence of SMS in the Committee, its efficient management and continuous improvement during the several years.

In light of demands and great interest of users as well as necessity of SMS application for improvement of quality of production process and the results, and being a tool to decrease a risk of losing the knowledge caused by the change of employees' workplaces, and considering UNECE, Eurostat and EFTA recommendation in Global Assessment of the National Statistical System of the Republic of Azerbaijan 2010 (http://www.stat.gov.az/source/others/G_Q_en.pdf), the efficient management of SMS required long-term approach rather than 2 years. In this view, plan of actions on SMS has been set out in "State Program on Development of Official Statistics in the Republic of Azerbaijan for 2013-2017" approved by the decree # 2621 of the President of the Republic of Azerbaijan dated 21 December 2012, (**State Program**, http://www.stat.gov.az/menu/2/state_programs/2013_2017/indexen.php).

Current situation

As of 1 January 2013 new website of the Committee has been launched. Methodological explanations, use of SDDS, statistical classifications and etc. were placed in the old one; there was also possible uploading of e-documentation procedure and online submission of reports. The new website has been moved to gov.az domain.

The following e-services are operated in the website (www.stat.gov.az):

1. Submission of statistical report forms;
2. Presentation of dissemination calendar of statistical issues and press-releases;
3. Submission of statistical data (indicators);
4. Online sale of statistical publications (books);
5. Online payment of administrative fines for violation of rules on statistical data submission.

New design of the website is more attractive. It enables dissemination of more detailed information (texts, tables, interactive tables, charts, diagrams) in several formats (PDF, XLS, HTML).

More detailed statistical database, classifications, above-mentioned e-services, statistical vocabulary, e-reports, e-library, "Google" search option and at last metadata section are provided for new website users.

"Metadata" page consists of three subpages: "Metadata on statistical indicators", "Metadata on questionnaires" and "Other methodological explanations" (<http://www.stat.gov.az/menu/7/>). Metadata on over 1000 indicators and 250 questionnaires are placed at these pages. Metadata placed here are collected according to "Dublin Core" standard and it corresponds to "Requirements on creation of internet information resources of the state bodies" approved by decree # 189 of the Cabinet of Ministers of the Republic of Azerbaijan dated 4 September 2012.

On March-April 2013 "Euro SDMX Metadata Structure (ESMS)" was reviewed and since May metadata system had been developed based on this standard. At present an application of unique metadata structure composed of 21 concepts and 56 subconcepts has been launched. Some metadata in the section "Metadata on statistical indicators" of the "Metadata" page are issued based on SDMX standard. For ex.:

<http://www.azstat.org/MetaDataG/bchapsdmx.jsp?prkod=061004&prskod=50>

<http://www.azstat.org/MetaDataG/bchapsdmx.jsp?prkod=041001&prskod=45>

<http://www.azstat.org/MetaDataG/bchapsdmx.jsp?prkod=130202&prskod=44>

According to the **Plan of Actions** "ESS Standard on Quality Reports" was reviewed and the document referred to as "Standards and recommendations on quality assessment report" (**Standard**) had been prepared and approved by decree # 101/07 of the Committee dated 17 December 2012. On March-May 2013 subject-matter departments had prepared detailed reports on main statistical products and placed at the Committee web page (<http://www.stat.gov.az/menu/2/quality/>).

Total Quality Management in the Committee

Since creation of SMS in official statistics supports documentation of all processes and improvement of total quality it is appropriate to list actions implemented in this direction.

Actions implemented in 2010:

- Approval of policy and objectives in the field of quality;
- Establishment of Coordination Council on Quality;
- Appointment of Quality Representative;
- Preparation of **Handbook on Quality** (1st publication);
- Conduction of the survey on satisfaction of users needs related with quality of data and statistical activity (http://www.stat.gov.az/source/others/s_en.pdf).

Actions implemented in 2011:

- Preparation of Code of Practice of the State Statistical Bodies of the Republic of Azerbaijan;
- Establishment of the Department of Quality Management and Information Technologies;
- Conduction of Employee Satisfaction Survey;
- Preparation of rules on provision of users with microdata for research purposes.

Actions implemented in 2012:

- Approval of "Rules on responses by the State Statistical Committee to requests from international organizations";
- Approval of **Plan of Actions**;
- Approval of the national versions of "Generic Statistical Business Process Model" (**GSBPM**), 1st edition, http://www.stat.gov.az/menu/2/quality/source/00_2.pdf;
- Approval of "Rules on elimination of errors occurred in the published and disseminated official statistical information";
- Approval of the **Standard**, http://www.stat.gov.az/menu/2/quality/source/00_3.pdf;
- Approval of the **State Program** by decree of the President of the Republic of Azerbaijan dated 21 December 2012.

Actions implemented in 2013:

- Approval of "Rules on classification and elimination of errors occurred in the reporting information";
- Preparation of draft of "National quality assurance framework in official statistics system of the Republic of Azerbaijan";
- Preparation of "Questionnaire and methodology for conduction of the survey on meeting of users needs related with quality of data and statistical activity";
- Preparation and approval of national versions of "Statistical Metadata in a Corporate Context" and "Metadata Concepts, Standards, Models and Registries" (Part A and Part B);
- Approval of the 2nd edition of the national version of GSBPM;
- Preparation of 2nd publication of the **Handbook on Quality**;
- Preparation of quality reports on statistical products by main areas;
- Organization of internal audits for the purpose to study the situation of application of quality management documentation;
- Conduction of Employee Satisfaction Survey;
- Complex analysis of the results of internal audits by the Leadership;
- Carrying out of external certification audit in all departments of the Administration;
- Development of statistical processes based on GSBPM by main fields (products) of statistics;
- Carrying out of online survey on provision of users with statistical data (http://www.stat.gov.az/source/others/Sorgu_2013.pdf) and etc.

Actions implemented in 2014:

- "Plan of actions on creation of Quality Management System (QMS) in Baku, Ganja, Sumgayit and Mingechevir city, Barda and Lenkoran regional statistical offices for 2014-2015" has been approved;
- Questionnaire of one-time statistical survey on "Respondents satisfaction" and instructions on its filling have been approved;
- "European Foundation for Quality Management (EFQM) Excellence Model" has been studied and proposals on its application in the Committee have been presented to the Leadership;
- "Statistical processes by all statistical surveys" have been developed;

- “Unique register of software available in the system of the State Statistical Committee” has been created;
- (to be continued).

Policy and objectives in the field of quality approved by decree # 19/1 of the Committee dated 24 May 2010, and # 57/07s dated 10 December 2013 (available for all users at <http://www.stat.gov.az/menu/2/quality/indexen.php>), as well as **Handbook on Quality**, creation of Coordination Council on Quality, assignment of Quality Representative have significantly impacted on Total Quality of the organization.

Despite the less time passed since the creation of Quality Management System in the Committee (since 2010), issuing of a certificate of international competence on correspondence of QMS with ISO 9001:2008 standard by “**Bureau Veritas**” company could be noted as an important event in the Committee history(<http://www.stat.gov.az/menu/2/quality/en/certificate.pdf>). All of that resulted in significant enhancement of knowledge of employees about quality management, and team work in the field of SMS had been implemented.

To enable gaining of prompt practical results the new organizational structure has been adopted in the State Statistical Committee.

Chart 1. **New organizational structure of the Committee (2013)**. http://www.stat.gov.az/menu/2/structure/en/structure_en.pdf

Metadata Classification

Metadata system(s)

In accordance with Plan of Actions approved by decree #17/4 of the Committee Board, dated 12 June 2013, as of 2014 a special storage model for Metadata will be operated.

Costs and Benefits

Implementation strategy

The followings are main objectives for the nearest future:

- Preparation and application of “Smart report” project, creation of e-database;
- Bringing to conformity of database structure with statistical register;
- Increasing of data exchange opportunities of local statistical bodies, development of internal data networks;
- Provision of e-integration of all published summary statistical data to primary databases;
- Creation of metadata system on all statistical questionnaires and indicators;
- Provision of integration of metadata system to databases;
- Creation of automated system of database maintenance process on administrative information submitted by the Committee and received from other public organizations;
- Application of more advanced standard software packages, information bases, database management system. (For ex.: Business Architecture Program on Quality).

IT Architecture

Metadata Management Tools

There are no used special tools.

Standards and formats

Version control and revisions

Metadata control is carried out according to the general rules accepted.

Outsourcing versus in-house development

There are 3 subordinate organizations of the Committee: Main Computing Centre, Scientific-Research and Design Technological Centre of the Statistical Data and Educational Centre.

Information technologies issues are resolved by the Department of Quality Management and Information Technologies of the Administration and Main Computing Centre. Main Computing Centre is an organization having status of legal entity. It functions under subordination and on direction of the Committee. Main Accounting Centre plays a key role in statistical processes: it is responsible for data collection, processing, checking and receiving information from the regional divisions and transferring them to the Administration, publication of statistical bulletins, development of software, computer services and system support, application of web technologies.

Scientific-Research and Design Technological Centre of the Statistical Data composed of departments of scientific-methodology, mathematical statistics and econometrics, concerns with preparation of methodology specified by the Committee and statistical analysis and etc. Main field of activity of the Centre is as follows:

- selection of survey units for conduction of statistical surveys;
- systematical study of the organization of statistical production;
- study of application of new technologies in statistical production;
- study of statistical indicators system;
- study of the compilation of inter-field, food and fuel-energy balances;

- study of micro-, mezo- and macroeconomic statistical data.

Educational Centre realizes the following activities:

- preparation and training of accountant and statistical workers for enterprises, institutions and organizations and provision of employees' skills improvement;
- support of attendees in acquisition of innovations in the field of accounting and its computation, best practices in use of labour and material resources;
- continual improvement of education quality, development of forms and methods of training in compliance with up-to-date requirements;
- provision of personnel skills development, increasing of moral, pedagogical, special and public level;
- creation of training material resources together with relevant institutions and provision of modern equipment and computing technologies.

Sharing software components of tools

Overview of roles and responsibilities

The Committee implemented efficient structural changes in 2011 and 2013. At present there are 10 field and 6 administrative departments in the Committee. High-level managerial staff is represented by the Chairman, 3 Deputy Chairmen, and Chief of the Administration. Regional (city) statistical divisions are subordinated to the Administration. Statistical departments functioning in the Administration are as follows:

1. Department of Agriculture and Environment Statistics;
2. Department of Service Statistics;
3. Department of Price Statistics;
4. Department of Population Living Standards and Household Budget Survey Statistics;
5. Department of National Accounts and Macroeconomic Indicators Statistics;
6. Department of Industry and Construction Statistics;
7. Department of Population and Gender Statistics;
8. Department of Labour Statistics;
9. Department of Trade Statistics;
10. Department of Data Dissemination.

Administrative departments are represented by the followings:

1. Department on Coordination of Statistical Works;
2. General Department (Secretariat);
3. Department of Accounting and Supply;
4. Personnel Department;
5. Department of Regime and Confidential Clerical Works;
6. Department of Quality Management and Information Technologies.

As of 1 January 2013, 55.6% of employees of the Administration make women, 44.4% - men.

Metadata management team

At present the Department of Quality Management and Information Technologies and corresponding departments of Main Computing Center supervise metadata preparation, input into base and dissemination.

Training and knowledge management

Enlightenment and educational works (technical trainings and seminars) with employees in the system of the State Statistical Committee have continuously been conducted to develop their knowledge of innovations and international standards.

Partnerships and cooperation

International cooperation is highly appreciated in the Committee. These relations give good opportunities for skills development, share experience, and benefit from new ideas, follow-on innovations. The following table provides the dates of agreements of the Committee with several world countries and EU Statistical Office.

Table # 1. *Bilateral agreements, Statements, Memorandums and etc.*

1.	Turkey	02.11.1992	http://www.stat.gov.az/menu/2/international_coop/source/Turkiye.pdf
2.	Uzbekistan	23.07.1999	http://www.stat.gov.az/menu/2/international_coop/source/Ozbekstan.pdf
3.	Bulgaria	02.12.1999	http://www.stat.gov.az/menu/2/international_coop/source/Bolqarstan.pdf
4.	Kazakhstan	07.04.2000	http://www.stat.gov.az/menu/2/international_coop/source/Qazaxstan.pdf
5.	Russia	24.04.2001	http://www.stat.gov.az/menu/2/international_coop/source/Rusiya.pdf
6.	Moldova	22.02.2007	http://www.stat.gov.az/menu/2/international_coop/source/Moldova.pdf
7.	Jordan	29.07.2007	http://www.stat.gov.az/menu/2/international_coop/source/Jordan.pdf

8.	Tajikistan	13.08.2007	http://www.stat.gov.az/menu/2/international_coop/source/Tacikstan.pdf
9.	Hungary	07.07.2008	http://www.stat.gov.az/menu/2/international_coop/source/Macar.pdf
10.	Iran	10.03.2009	http://www.stat.gov.az/menu/2/international_coop/source/Iran.pdf
11.	Germany	26.04.2010	http://www.stat.gov.az/menu/2/international_coop/source/Almaniya.pdf
12.	Belarus	03.06.2010	http://www.stat.gov.az/menu/2/international_coop/source/Belarus.pdf
13.	Georgia	06.03.2012	http://www.stat.gov.az/menu/2/international_coop/source/Gurcistan.pdf
14.	EU Statistics Office	22.11.1999	http://www.stat.gov.az/menu/2/international_coop/source/Avrostat.pdf

Table # 2. **Membership of the Committee specialists in Working Groups of International organizations**(http://www.stat.gov.az/menu/2/international_coop/indexen.php)

1.	Steering Group for the United Nations Economic and Social Commission for Asia and Pacific on Economic Statistics
2.	Expert Group on "Methodological Manual for the production of Statistics on the Information Economy" of UNECE and UNCTAD
3.	High-Level Expert Group of ECO on Statistics
4.	Expert Group for the United Nations Economic and Social Commission for Asia and Pacific on Social Statistics
5.	Expert Group on Measuring Quality of Employment
6.	Working Group on Environmental Indicators of UNECE
7.	Working Group in the frame of Project on Strengthen of national opportunities on collection, preservation and joint use of data on migration in Azerbaijan
8.	European Environment Agency, "Working Group on Information Technologies"

Other issues

The Committee follows models, recommendations, generally metadata standards developed in international statistics system and taking into account available resources realizes issues of their application. It is also necessary to note that the Committee does not passively study international standards; vice versa it tries to take part in their development. It addresses to the practices placed in Common Metadata Framework, Part D-Implementation and takes part in experience share.

Lessons learned

It is also probable to face with a lot of difficulties on creation, development, improvement of metadata system as well as on its integration to database. These difficulties are studied by the specialists; the reasons are investigated and prevented. Such cases are mainly as follows:

- Difference of data's viewpoint of two several structural divisions using the same indicators and presence of two "holders" of an indicator;
- Mixing up indicators with product concept;
- Change of radical practice "tradition";
- Backward understanding of benefits importance;
- Difficulties in applying the theory in the practice;
- Insufficiency of human resources know-how and experience;
- Complaints because of considerably much work;
- Non-exemplary of assessment and achievements because of in complex building of working mechanism (for the present);
- Non-exemplary of IT.

The following are recognised as challenges in the implementation of the Committee's SMS:

- Promote metadata concept and the role of SMS;
- To prepare standards of managing statistical processes according to the 2nd edition of the national version of GSBPM;
- To prepare and apply the national version of GSIM (Generic Statistical Information Model) that will be the reference framework of information objects, which will enables generic descriptions of data and metadata definition, management, and use throughout the statistical production process. GSIM will complement the GSBPM, SDMX and other standards
- To adapt to the structure of SDMX the metadata structure of indicators in the database;
- To improve the Descriptive Glossary of Statistical Terminology and added related to statistical production terminology (concepts) that agreed at international level;
- To assure active participation of the expert of the Committee at international forums, seminars and other meeting associated with Statistical Metadata Standards;
- To arrange continuously training and development programme on SMS for the staff of the Committee.

Links:

Attachments

