Agency for statistics of
Bosnia and Herzegovina
Federation of Bosnia and Herzegovina
Federal Institute for Statistics
Republic of Srpska
Republic Institute for Statistics

METADATA SYSTEM DEVELOPEMENT STRATEGY IN THE STATISTICAL SYSTEM OF BOSNIA AND HERZEGOVINA

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ABBREVIATIONS

BHAS	Agency for statistics of Bosnia and Herzegovina
FIS	Federal Institute for Statistics
RSIS	Republika Srpska Institute for Statistics
EUROSTAT	European Statistical Office
GSIM	Generic Statistical Information Model
GSBPM	Generic Statistical Business Process Model
DDI	Data Documentation Initiative Standard
SDMX	Set of Technical standards and content-oriented guidelines
SIMS	Single Integrated Metadata Structure
ESS	European Statistical System
ESMS	Euro SDMS Metadata Standard
ESQRS	ESS Standard for Quality Reports Structure
UN	United Nations

1. INTRODUCTION

"Metadata sysem development strategy in the statistical system of Bosnia and Herzegovina" is the document aimed to management of statistical institutions for decision making on its implementation, as well as to other participants in statistical process which will participate in strategy implementation.

1.1. Statistical metadata system

Metadata can be defined as "data that define and describe other data" whereas statistical metadata are "data about statistical data, and comprise data and other documentation that describe objects in a formalised way". Some metadata, however, describe other resources that are relevant to the collection, processing and dissemination of data (for example, questionnaires and publications) rather than relating directly to data themselves, so a slightly wider definition of metadata may need to be considered. With this in mind, the Statistical metadata system is defined as: "A data processing system that uses, stores and produces statistical metadata". The term „System“ refers to the people, processes and technology involved in managing statistical metadata.

With rapidly developing technologies, it can be challenging to implement efficient strategies for the production and dissemination of statistics. The growing use of the Internet has caused significant changes in the priorities for managing statistical metadata. In the past, priority was often given to technical solutions for metadata, whereas now there has been a clear shift to focusing on content and methodological issues. When designing the Statistical metadata system, priority should be given to the content of the system.

Due to these changes, transparent and integrated descriptions of information flows within and outside the statistical office are vital for qualitative production of statistical data. The use of technology for data collection, interactive communication with users, and dissemination of statistics, calls for a coherent and well functioning metadata system.

1.2. The role of statistical metadata system (accordinf to UN's recommendations)

The success of an statistical metadata system can be measured by the extent to which needs of diverse groups of statistical metadata users are satisfied. The need for metadata is defined by the various activities, tasks and processes carried out in a statistical organization.

The Statistical metadata system is a tool enabling a statistical organization to effectively perform the following functions:

- Planning, designing, implementing and evaluating of statistical production processes.
- Managing, unifying and standardizing workflows and processes.
- Documenting data, collection, storage, evaluation and dissemination.
- Managing methodological activities, standardizing and documenting concept definitions and classifications.
- Managing communication with end-users of statistical outputs and gathering of user feedback.
- Improving the quality of statistical data and transparency of methodologies. Ensuring and evaluating the quality of statistical data is one of the most important activities. In this sense, national and international statistical organizations have adopted a set of criteria (relevance and completeness, comparability and coherence of statistical concepts, accuracy of statistical estimations, timeliness and punctuality of delivered statistical information, its accessibility and clarity). The Statistical metadata syestem should offer a relevant set of metadata for all of these criteria.

- Managing statistical data sources and cooperation with respondents.
- Improving exchange of data between the statistical organization and its users.
- Improving integration of statistical information systems with other national information systems. Growing demands to use administrative data for statistical purposes require better integration and sharing of metadata between statistical and administrative bodies, to ensure coherence and consistency of exchanged information.
- Disseminating statistical information to end users. End users need reliable metadata for searching, navigation, and interpretation of data. Metadata should also be available to assist the additional analsys of statistical data.
- Improving integration between national and international organizations. International organizations are increasingly requiring integration of their own metadata with metadata of national statistical organizations, for the purpose of comparison and compability, monitoring of use of agreed standards.
- Developement a knowledge base on the processes of statistical information systems, and minimizing the risks related to knowledge loss when staff leave or change functions through knowledge sharing among staff.
- Improving administration of statistical information systems, including administration of responsibilities, compliance with legislation, performance and user satisfaction.
- Facilitating the estimation of costs and revenues for the statistical organization.
- Unifying statistical terminology as a vehicle for better communication and understanding between managers, designers, subject-matter statisticians, methodologists, respondents and users of statistical information systems.

2. STRATEGY GOALS

Long term metadata strategy goals are:

- ✓ **Improvement of knowledge of metadata of all actors in process of production, processing, exchange, dissemination and use of statistical data**
- ✓ **Developement of common metadata repository within the statistical system of Bosnia and Herzegovina**
- ✓ **Documenting of all research done through metadata statistical system, by accepting international standards**
- ✓ **Presentination of metadata in formats acceptable to internal and external users**

Goals of Metadata developement system are as follows:

- ✓ To develop a basis for future efficient work of statistical system, especially during introduction of new surveys.
- ✓ To ensure quality in the existing surveys adjusted to needs of end users.
- ✓ To ensure description and documentation for statistical research according to international standards.
- ✓ To ensure compliance with standards on EU level
- ✓ To decrease respondents burden by increased use of already collected data
- ✓ To give better description to administrative sources, in order to improve possibiliy of their use in statistical production

- ✓ Use of ESMS (Euro-SDMX Metadata Structure) and ESQRS (Standard for Quality Reports Structure) as formats for referent metadata
- ✓ Use Eurostat's standardised code lists
- ✓ Adopt and apply a Generic Statistical Business Process Model - GSBPM
- ✓ Define variables, concepts, clasifications and other metadata

For establishing and achievement of strategy goals, support from top management is necessary, and must be given before beginning of implementation.

3. INTERNATIONAL STANDARDS

One of the main goals of a successful metadata system is acceptance of international standards in this area. Generic Statistical Business Process Model and General Statistical Information Model are key standards for the modernization of the official statistics. They aim to provide a common terminology, to improve communication on the statistics production within and between organizations, to facilitate cooperation and exchange of good practices, and to increase efficiency.

3.1. GSIM – Generic Statistical Information Model

Organizations for statistics production are taking similar actions worldwide. Each of these activities uses and produces similar information (for example, all agencies use classifications, create data sets and publish the results). Although the information is essentially the same, organizations often tend to describe this information a little differently, and often in different ways in each organization.
General statistical information model is a conceptual model that provides a set of standardized, consistently described information objects, which are inputs and outputs in the design and statistics production.
For the production of official statistics, organizations follow a set of processes, as described in the Generic Statistical Business Process Model (GSBPM). However, besides processes, we also have information which flow between them (data, metadata, rules, parameters, etc.). General Statistical Information Model (GSIM) aims to define and describe this information with the help of objects in a coordinated manner.

General Statistical Information Model is a reference framework of internationally agreed definitions, attributes and relationships that describe the information used in the production of official statistics. This framework provides a general description of the definition, management and use of data and metadata in statistical production processes. GSIM provides a common language to describe the information that supports the entire statistical production process, starting from identification, the user's needs, up to the dissemination of statistical data. DDI and SDMX represent implementation standards, but are not part of GSIM.

3.2. GSBPM – Generic Statistical Business Process Model

The purpose of the Generic Statistical Business Process Model is to provide a basis for statistical organizations to adopt the standard terminology that will help them in their discussions on the development of statistical systems and metadata systems.

GSBPM is suitable for use in all activities undertaken by producers of official statistics, at national and international levels, which resulted in the data publication. It is designed to be independent of the data source, so it can be used for description and process quality assesment, based on surveys, censuses, administrative records and other non-statistical or mixed sources.

Generic Statistical Business Process Model is consisted from four levels, as follows:

- Level 0, the statistical business process;
- Level 1, the nine phases of the statistical business process;
- Level 2, the sub-processes within each phase;
- Level 3, a description of those sub-processes.

QUALITY MANAGEMENT / METADATA MANAGEMENT								
1 Specify needs	**2 Design**	**3 Build**	**4 Collect**	**5 Process**	**6 Analyse**	**7 Disseminate**	**8 Archive**	**9 Evaluate**
1.1 Determine needs for information	2.1 Desing outputs	3.1 Build data collection instrument	4.1 Select sample	5.1 Integrate data	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Define archive rules	9.1 Gather evaluation inputs
1.2 Consult & confirm needs	2.2 Desing variable descriptions	3.2 Build of enhance process components	4.2 Set up collection	5.2 Classify and code	6.2 Validate outputs	7.2 Produce dissemination products	8.2 Manage archive repository	9.2 Conduct evaluation
1.3 Establish output objectives	2.3 Design data collection methodology	3.3 Configure workflows	4.3 Run collection	5.3 Review, validate and edit	6.3 Scrutinize and explain	7.3 Manage release of dissemination products	8.3 Preserve data and associated metadata	9.3 Agree action plan
1.4 Identify concepts	2.4 Design frame and sample methodology	3.4 Test production system	4.4 Finalize collection	5.4 Impute	6.4 Apply disclosure control	7.4 Promote dissemination products	8.4 Dispose of data & associated metadata	
1.5 Check data availibility	2.5 Design statistical processing methodology	3.5 Test production system		5.5 Derive new variables and statistical units	6.5 Finalize outputs	7.5 Manage user support		

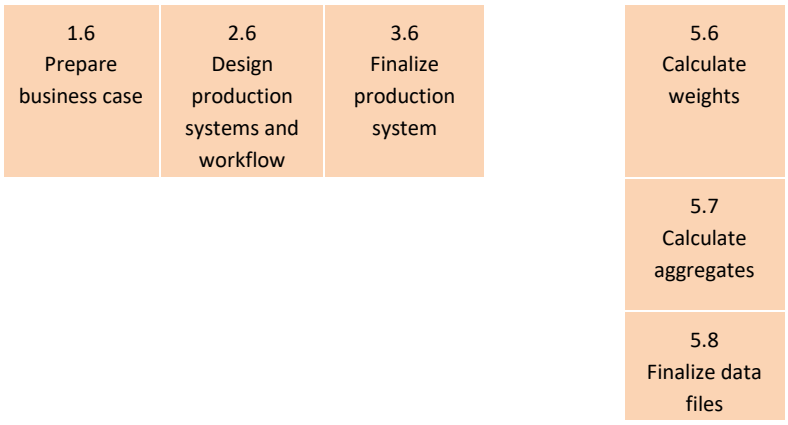

Chart 1 - Generic Statistical Business Process Model

3.3. DDI – Data Documentation Initiative

Data Documentation Initiative is the standard for technical documentation which describes the data.
DDI is commonly used as a standard for documenting and describing data for archiving and reuse. It is suitable for documenting ongoing research projects, documenting the re-use of data, creating a library of concepts/issues/variables, generating different formats for data dissemination.
Meta data documentation using DDI supports the entire lifecycle of data in a single study, accompanies and enables data conceptualization, collection, processing, distribution, detection, analysis, conversion and archiving.

3.4. SDMX – Statistical Data and Metadata Exchange

SDMX is a suite of technical standards and content-oriented guidelines, along with the IT organizational structure and tools used for efficient information exchange and sharing of statistical data and metadata.

SDMX technical standards enable the exchange of data (and metadata which are closely linked to these data) between statistical institutions on the basis of known data structure definitions.

Using the well-known definition of the data structure allows mapping or translation of exchanged data and messages to and from internal statistical databases and systems.

3.5. SIMS –Single Integrated Metadata Structure

Single Integrated Metadata Structure includes all the statistical concepts of the two existing structure reports ESS (ESMS and ESQRS), which ensures that all concepts appear only once. It is a dynamic structure in the sense that in the future additional statistical metadata and quality concepts can be included, if necessary.

When we speak about quality, it should be emphasized that the users and producers of data have different needs in relation to statistical data, which must be reflected in the quality reports, which are made for them. The difference between the quality report which are oriented towards users (K) and producers (P) is ensured by a unique platform through a unified metadata through its uniqueness and flexibility to perform different subsets of information in predefined structure reports.

K	P	Unique unified metadata structure	
	P	**S.1**	**Contact**
	P	S.1.1	Contact organisation
	P	S.1.2	Contact organisation unit
	P	S.1.3	Contact name
	P	S.1.4	Contact person function
	P	S.1.5	Contact mail address
	P	S.1.6	Contact email address
	P	S.1.7	Contact phone number
	P	S.1.8	Contact fax number
	P	**S.2**	**Introduction**
		S.3	**Metadata update**
		S.3.1	Metadata last certified
		S.3.2	Metadata last posted
		S.3.3	Metadata last update
		S.4	**Statistical presentation**
		S.4.1	Data description
		S.4.2	Classification system
		S.4.3	Sector coverage
		S.4.4	Statistical concepts and definitions
		S.4.5	Statistical unit
		S.4.6	Statistical population
		S.4.7	Reference area
		S.4.8	Time coverage
		S.4.9	Baze period
		S.5	**Unit of measure**
		S.6	**Reference period**
		S.7	**Institutional mandate**
		S.7.1	Legal acts and other agreements
		S.7.2	Data sharing
	P	**S.8**	**Confidentiality**
	P	S.8.1	Confidentiality - policy
	P	S.8.2	Confidentiality – data treatment
		S.9	**Release policy**
		S.9.1	Release calendar
		S.9.2	Release calendar access
		S.9.3	User access
		S.10	**Frequency of dissemination**
	P	**S.11**	**Dissemination format, availability and clarity**
	P	S.11.1	News release
	P	S.11.2	Publications
	P	S.11.3	On-line database
	P	*S.11.3.1*	*AC1. Data tables*
	P	S.11.4	Micro-data access
	P	S.11.5	Other
	P	*S.11.5.1*	*AC 2. Metadata*
		S.12	**Accessibility of documentation**
K	P	S.12.1	Documentation on methodology
	P	*S.12.1.1*	*AC 3. Metadata completeness - rate*
K	P	S.12.2	Quality documentation
		S.13	**Quality management**
K		S.13.1	Quality assurance
K	P	S.13.2	Quality assessment
	P	**S.14**	**Relevance**
K	P	S.14.1	User needs
K	P	S.14.2	User satisfaction

K	P	S.14.3	Completeness and *R1. Data completeness – rate for K*
	P	*S.14.3.1*	*R1. Data completeness – rate for P*
	P	**S.15**	**Accuracy and reliability**
K	P	S.15.1	Overall accuracy
K	P	S.15.2	Sampling error and *A1. Sampling errors – indicator for K*
	P	*S.15.2.1*	*A1. Sampling errors – indicator for P*
K		S.15.3	Non-sampling error and *A4. Unit non-response – rate for K* and *A5. Item non-response – rate for K*
	P	S.15.3.1	Coverage error
	P	*S.15.3.1.1*	*A2. Over - coverage – rate*
	P	*S.15.3.1.2*	*A3. Common units - proportion*
	P	S.15.3.2	Measurement error
	P	S.15.3.3	Non response error
	P	*S.15.3.3.1*	*A4. Unit non-response – rate for P*
	P	*S.15.3.3.2*	*A5. Item non-response – rate for P*
	P	S.15.3.4	Assessment of error
	P	S.15.3.5	Model assumption errors
	P	**S.16**	**Timeliness and punctuality**
K	P	S.16.1	Timeliness and *TP2. Time lag – final results for K*
	P	*S.16.1.1*	*TP1. Time lag – first results for P*
	P	*S.16.1.2*	*TP2. Time lag – final results for P*
K	P	S.16.2	Punctuality and *TP3. Punctuality – delivery and publication for K*
	P	*S.16.2.1*	*TP3. Punctuality - delivery and publication for P*
	P	**S.17**	**Comparability**
K	P	S.17.1	Comparability - geographical
	P	*S.17.1.1*	*CC1. Asymmetry for „mirror" flows statistics*
K	P	S.17.2	Comparability over time and *CC2. Lenght of comparable time series for K*
	P	*S.17.2.1*	*CC2. Lenght of comparable time series for P*
	P	**S.18**	**Coherence**
K	P	S.18.1	Coherence cross domain
	P	S.18.1.1	Coherence – monthly, quarterly, semi-annual and annual statistics
	P	S.18.1.2	Coherence with National Accounts
K	P	S.18.2	Coherence internal
K	P	**S.19**	**Cost and burden**
	P	**S.20**	**Data revision**
K	P	S.20.1	Data revision policy
K	P	S.20.2	Data revision – practice and A6. Data revision – average size for K
	P	*S.20.2.1*	*A6. Data revision – average size for P*
	P	**S.21**	**Statistical processing**
	P	S.21.1	Data source
	P	S.21.2	Frequency of data collection
	P	S.21.3	Data collection
	P	S.21.4	Data validation
	P	S.21.5	Data compilation
	P	*S.21.5.1*	*A7. Imputation rate*
	P	S.21.6	Adjustment
	P	S.21.6.1	Seasonal adjustment
	P	**S.22**	**Comment**

Table 1. Unique unified metadata structure

3.6. ESMS –Euro SDMX Metadata Structure

The European standard for reference metadata aims to document the methodology, quality and statistical production processes in general.

ESMS format consists of 21 concepts of meta data that are presented in the SIMS framework (Table 1), where the columns are marked with K.

ESMS documents are not just metadata documents, they also include data on indicators shown in Table 2.

Component quality and	Label	Quality and performance indicator name
Relevance	R1	The rate of available statistics
Accuracy	A1	The coefficient of variation
	A2	Rate of overcoverage
	A3	Edit failure rate
	A4	Unit response rate
	A5	Item response rate
	A6	Imputation rate
	A7	Number of mistakes made, by tipe
	A8	Average revision size
Timeliness and puctuality	T1	Time lag between end of reference period and date of first publication
	T2	Time lag between end of reference period and date of final publication
	T3	Punctuality of publication
Accessibility and clarity	AC1	Rate of used dissemination chanells
	AC2	Rate of used dissemination means
	AC3	Number of accesses to online databases
	AC4	The rate of metadata completeness
Harmonisation and comparability	CC1	Lenght of comparable time series
	CC2	Harmonisation between preliminary and final results
	CC3	Harmonisation with reference data
Assesment of user needs and percepcion	US1	User satisfaction index
	US2	Lenght of time since most recent user satisfaction survey
Survey cost and burden of respondants	PCR1	Annual operational cost, with breakdown by major cost components
	PCR2	Annual respondent burden in hours and/or financial terms

Table 2 – Quality indicator data

3.7. ESQRS –ESS Standard for Quality Reports Structure

The European standard for quality report aims to provide recommendations for a comprehensive report on the quality of the full range of statistical processes and their results.
The standard's key objective is to promote reporting quality harmonization through statistical process and thereby facilitate comparisons of the process and results. Standard covers criteria for quality in the European Statistical System: relevance, timeliness and punctuality, accessibility and clarity, comparability and coherence. Reports of quality based on standards include all the information needed for user-oriented quality reports. ESQRS concepts are marked with letter P in the column of concept type.

4. STATISTICAL METADATA SYSTEM ELEMENTS

Internal and external metadata users have different needs, so the effective management of statistical metadata is very important.
The basis for an efficient metadata system is to identify the metadata for users and to understand their needs.
Generic statistical informaton system contains object information on metadata, which relate to overall statistical data production cycle. Strategy includes four important areas of metadata/modules, as follows:

- ✓ Concepts,
- ✓ Variables,
- ✓ Classifications,
- ✓ Methodological documents.

Modules of statistical metadata systems are interconnected and interdependent as shown in Figure 2.

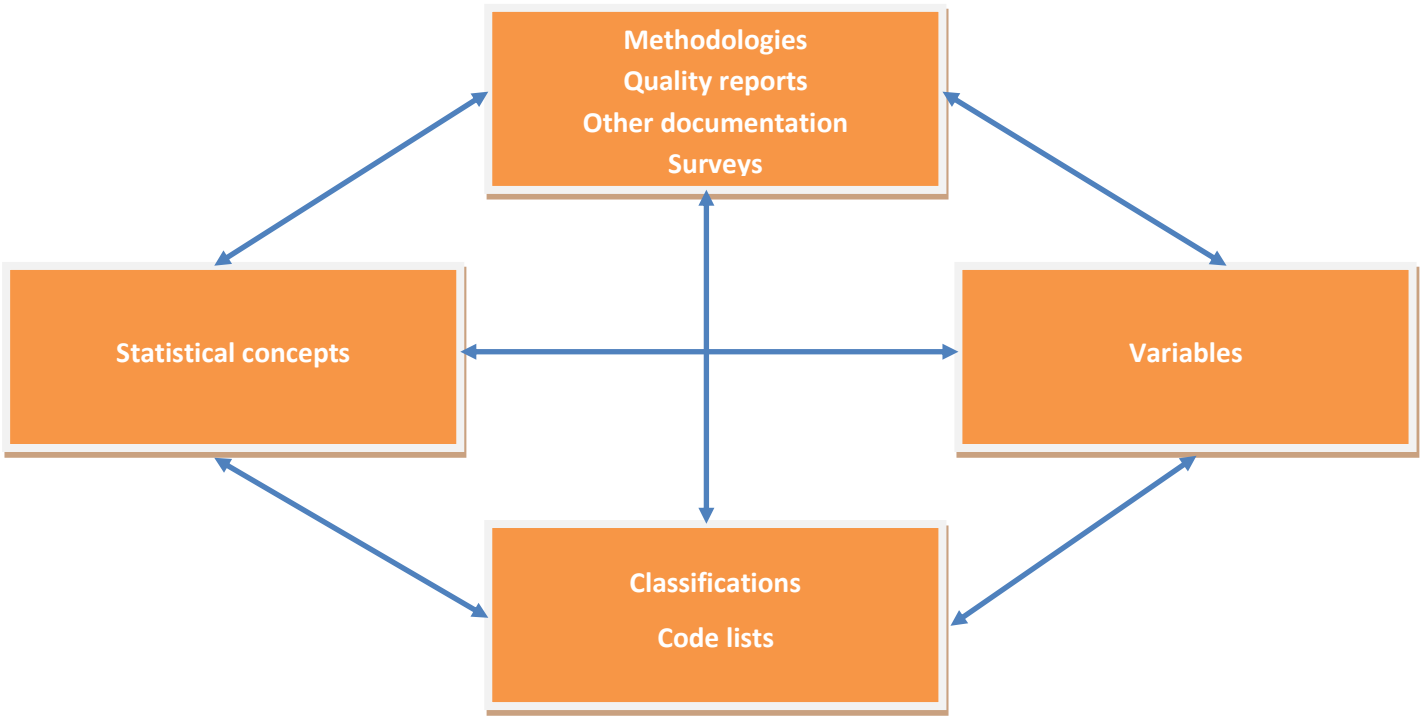

Figure 2 – Statistical metadata system moduls

4.1. Concepts

Concepts include terms and definitions used in statistical activities.
Concepts database should include all the concepts, those who are active and as well as those that are no longer valid. Each concept is defined by a unique label, definition and description. The module must have an option to export data in different formats.

4.2. Variables

The module contains all of the observed variables and produced variables and indicators used in statistical surveys. Each variable has a unique label in the system, as well as the corresponding definition. It is possible to use one variable in more surveys.
The main role of the module is to provide support in the survey design and data dissemination. The module must have an option to export data in different formats.

4.3. Classifications

The classification module contains national, European and international statistical classifications used in statistical surveys. In addition to classification, the database contains code lists as well. All classifications and code lists are organized in the families and have more versions. Each version of the classification is worth a certain period of time.

Each classification is structured so that it has a name and password. For each classification the classification author must be determined. Classification module must have an option to export data in different formats. Classification base must allow the use of unique classifications and code lists in statistical surveys, both within the statistical system of Bosnia and Herzegovina, and between surveys in statistical institutions.

All classification versions are identified by an unique code and have relevant technical information on responsible persons, who owns the rights to the classification, information about classification levels, documentation relating to the classification, relationship with other classifications. The module contains a hierarchical and tabular overview of classification, as well as exported data in all classification summaries.

All classification versions have identification of the owner within the system, who has the copyright to the classification.
Classifications and code lists have an important role in Generic Statistical Information Model which will cover Neuchatel as auxiliary standard.

4.4. Methodological documents

Methodological document module consists of three parts:

- ✓ Methodological documents,
- ✓ Quality reports,
- ✓ Other survey documentation (questionnaires, instructions, etc.).

Survey is a statistical activity carried out on the basis of defined statistical methodology. Methodologies include the complete statistics production cycle: data collection, data processing, data analysis and dissemination of data in relation to a particular population.

5. ARCHITECTURE OF METADATA SYSTEM IN THE STATISTICAL SYSTEM OF BOSNIA AND HERZEGOVINA

The architecture of the metadata system should allow unique application of statistical standards in the statistical system of Bosnia and Herzegovina.

Metadata system will be consisted from three servers where the metadata will be stored. Each statistical institution in BiH will have their own server. The same data will be stored on all servers.

Database on the servers will be consisted of two parts, as follows:

- ✓ part of common metadata from the surveys carried out in all statistical institutions according to unique methodology,
- ✓ part of metadata from the surveys carried out in all statistical institutions and not harmonized, or carried out by different methodlogies.

Part of common metadata will be entered and maintained by Agency for statistics on their own server, after that the data will be sent to the entitie's servers.

Part of metadata from the surveys which are not harmonized will be entered and maintened by entity's statistical institutions on their servers, so after that the data will be delivered on server of the Agency.

All surveys collected by statistical institutions in Bosnia and Herzegovina will be entered in metadata system.

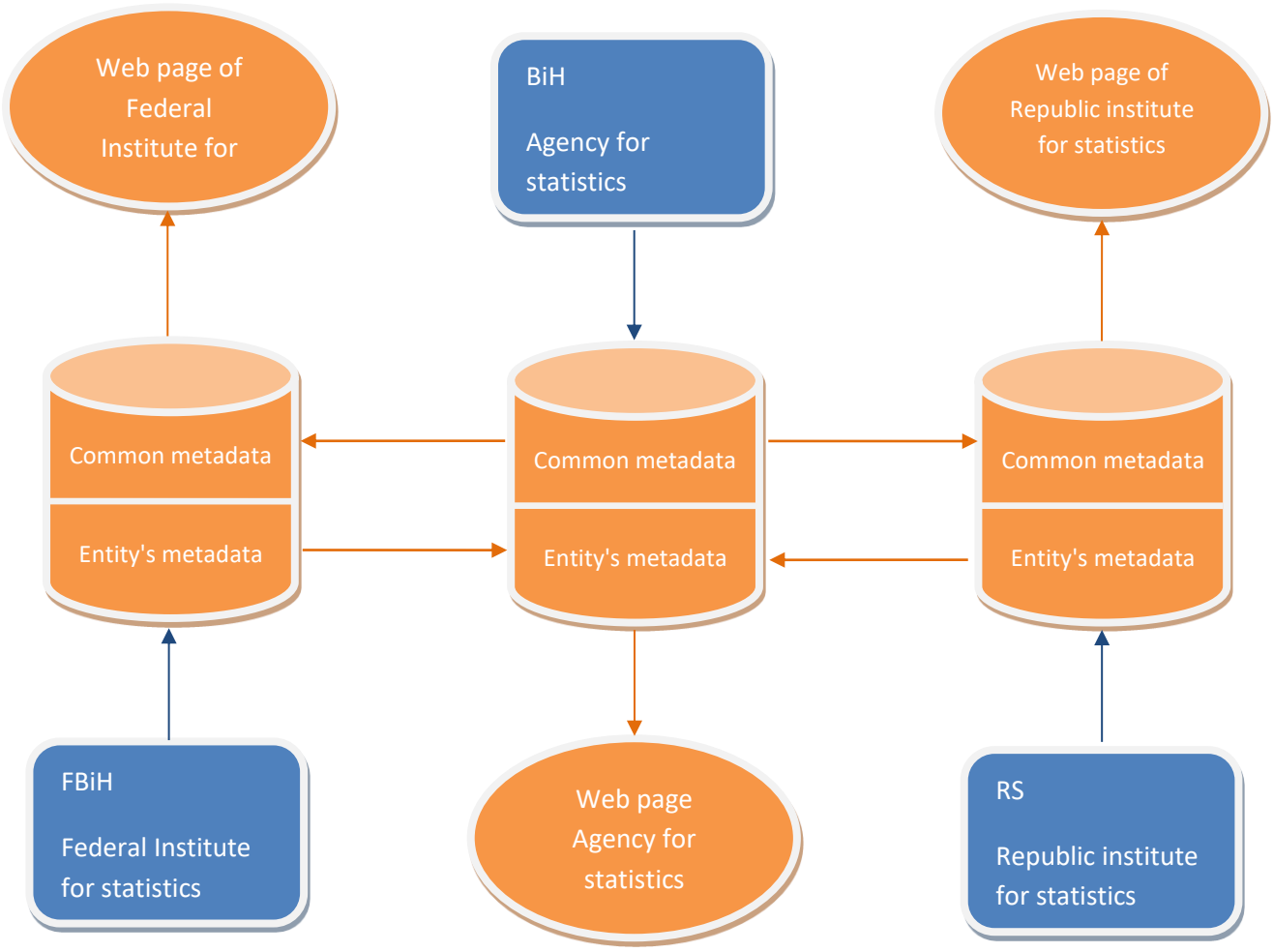

Figure 3. Architecture of metadata system in Bosnia and Herzegovina

6. METADATA KNOWLEDGE IMPROVEMENT

In order for implementation of metadata system to be successful, it is necessary that all participants in the statistical process have the necessary knowledge in the field of metadata, so they could record metadata in the moment when they occur, and edit the metadata of the existing surveys.

Improving the knowledge of the participants in the process can be done through:

- ✓ training,
- ✓ organization of workshops and meetings in the field of metadata, within the statistical system of Bosnia and Herzegovina, as well as on regional and international levels,
- ✓ study visits to countries that already have well-developed systems of metadata.

Prerequisite for high-quality documentation of all surveys is training of staff from statistical institutions in Bosnia and Herzegovina. Topics that need to be processed, in order that all participants in the statistical process are met with metadata system are:

- ✓ Introduction to metadata
- ✓ Generic Statistical Business Process Model (GSBPM)
- ✓ DDI and SDMX
- ✓ Variables and concepts
- ✓ Quality reports
- ✓ ESMS, ESQRS, SIMS
- ✓ IT tools for metadata management

Training should be designed with practical examples and organized by sector within the statistical institutes.

After the training, statistical staff should be ready to independently define concepts and variables for the underlying surveys which they work on, and IT staff should be able to provide all the necessary IT support from the metadata area.

7. METADATA STRATEGY IMPLEMENTATION

7.1. Work organisation

There are two organization dimensions in the future work on the implementation of the metadata strategy. They relate to the content and organization of metadata, to performance of work on standardization and harmonization. This job must be done by a group of experts, including the methodologists and subject matter statisticians. It is important to establish the right organization that will manage and oversee the process of harmonization. The system itself does not solve problems.

Another aspect is the metadata system implementation into the statistical system as a whole. Therefore there is a need for an organization with several levels which work closely together and cooperate on all levels. Work group for metadata should be formed in each of the agencies. Groups should consist of methodologists, IT staff and subject matter statisticians. Groups should not have too many members.

The metadata system is often seen as a technical system which is used by IT personnel, however, today, the development of metadata has a much broader perspective.

7.2. Organization of work groups for strategy implementation

There are three statistical institutions in Bosnia and Herzegovina, which form an integral part of the statistical system. According to Law on statistics, Agency for Statistics (BHAS) is responsible for level of Bosnia and Herzegovina, while Federal Institute for Statistics (FIS) and Republic Srpska Institute of statistics (RSIS) are responsible for the level of entities.

The organizational structure for the metadata strategy implementation should follow the organization of statistical systems. The organization of the work groups is shown in Figure 4.

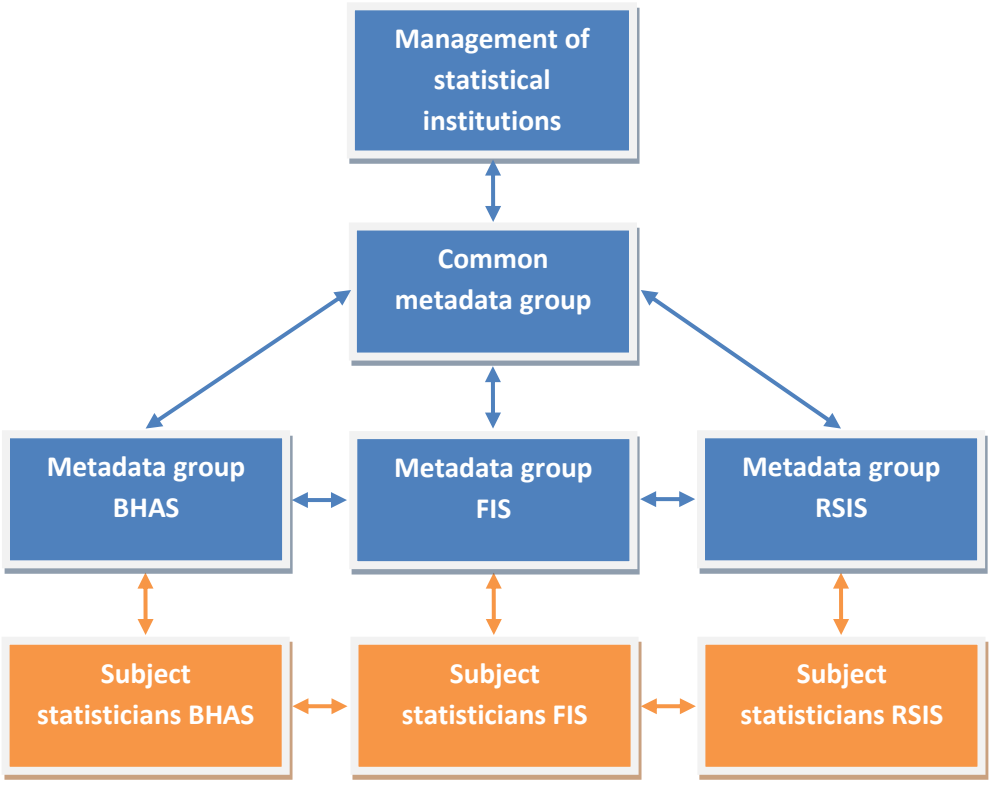

Figure 4. Organization of work groups for metadata strategy implementation

Establishment of common metadata group is of great importance which has to be initiator of development and implementation of metadata system, and to be primarly focused on metadata and mandate to be able to organize work in statistical institutions. .

Teams and groups must be able to be concentrated on metadata and must have management's full support

In addition to the joint metadata work group, it is necessary to form a metadata work group on the level of institutions and work teams consisting of subject matter statisticians.

Statistical institutions management

Management of statistical institutions is not a work group, but a body which is responsible for decision making within the statistical system, and is therefore shown in the organizational structure. Obligations of the statistical institutions management are as follows:

1. Adoption of metadata strategy
2. Support during the strategy implementation
3. Creating conditions for the smooth implementation of the metadata strategy

Common metadata work group

Common metadata work group will consist of six members, two from each statistical institutions. The main tasks of the work group are as follows:

1. Guiding the metadata implementation process,
2. Developement of metadata strategy,
3. Development and training in the area of standards and tools, including the establishment of support for metadata and quality, as well as monitoring of the standards implementation in the statistical institutions
4. Communication and managing of changes

Metadata work groups on the level of statistical institutions

Work groups in the institutions will have three members each, of which one is a coordinator and also a member of the common work group. The main tasks of the work groups at the level of institutions are as follows:

1. Coordination of the metadata strategy implementation
2. Helping the subject matter statisticians during the standards introduction
3. Standards implementation monitoring and metadata strategy implementation on the level of statistical institutions

Subject matter statisticians

Subject matter statisticians' tasks are as follows:

1. Defining of concepts, variables, definitions, code lists, and other elements of the metadata system
2. Input of metadata into the system
3. Metadata maintaining
4. Metadata strategy implementation and implementation of agreed standards

7.3. Framework plan for strategy implementation

Table 3 features a framework plan for the implementation of the metadata system development strategy. Activities which are shown in the table can unroll simultaneously. Following the strategy adoption, the formed work groups for implement will prepare a detailed activities plan for implementation based on the framework plan.

Activity
Strategy adoption
Establishment of work groups for implementation
Training
Preparation of classification and code list
Harmonization of code lists within and between statistical institutions
Documenting of existing research
Data entering into the metadata system
Publishing of metadata on statistical institutions' websites

Table 3 – Strategy implementation framework plan