



STATISTICAL OFFICE

QUALITY MANAGEMENT STRATEGY 2020 – 2023

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ABBREVIATIONS

CAF	The Common Assessment Framework
CATI	Computer Assisted Telephones Interviewing
CAWI	Computer Assisted Web Interviewing
EFQM	European Foundation for Quality Management
EMOS	European Master of official statistics work
EU	European Union
ESS	The European Statistical System
EUROSTAT	European Statistical Office
GSB	Government Service Bus
GSBPM	The Generic Statistical Business Process Model
IPA	Instrument for Pre-Accession Assistance
QAF	Quality Frame
TQM	Total quality management
SQL	Structured Query Language
CSV	Coma Separated Values
IT	Information technologies

I. INTRODUCTION

The 2020-2023 Quality Management Strategy is the second strategy which is prepared for the Montenegro official statistical system and it represents a strategic, development document in domain of quality in the statistical system of Montenegro.

The 2020-2023 Quality Management Strategy defines long-term objectives based on current state, needs, and future development, and in accordance with the operative objectives of the 2019-2023 Official Statistics Development Strategy.

Statistical Office as the main coordinator of statistical system, together with other official statistics producers, is legally obliged to work continuously and systematically on the improvement of quality. The 2020-2023 Quality Management Strategy determines the main elements of quality management system which are based on the European Statistics Code of Practice, as well as on manner of their implementation, respecting the recommendations of [Peer Review Report on Compliance with the Code of Practice and the coordination role of the National Statistical Institute](#). This is a document to be observed in the middle term and changed, i.e. to be updated and it serves as a basis for producing the *Plan on Establishment of Quality Management System and Guide for Implementation of Quality Management Strategy for 2020-2023*.

The purpose of Quality Management Strategy is implementation and use of principles of [TQM](#) model which represents a mutual quality frame of European Statistical System. It is system and organized model aimed at the improvement of official statistics data quality and improvement of quality of their production. The mentioned model is based on processes of planning, organizing, control, and permanent improvement of official statistics data production, with the participation of all staff members in the implementation of [GSBPM](#) model, as a framework for describing the components of statistical production processes.

In accordance with the [Rulebook on Internal Organization and Job Description of Statistical Office](#) (No 01 – 877 from 15 March 2019), quality estimations and analyses affairs under part of quality management via monitoring the use of the European

Statistics Code of Practice are a part of the Department for Dissemination and Management of Statistical Databases and Quality. Having in mind the importance of introduction of quality management system, there was established a working group for quality management devoted to issues of quality, coordination, and implementation of defined objectives. Additionally, the implementation of quality management system is supported via the IPA 2017 multi-beneficiary project – GRANT which will strengthen the efforts to fulfil defined strategic aims of quality and recommendations in the peer review report on compliance with the European Statistics Code of Practice.

II. LEGAL BASIS FOR ADOPTION OF QUALITY MANAGEMENT STRATEGY

Quality management strategy develops the quality management strategy as one of priority domains of development of official statistical system of Montenegro. It is prepared in accordance with national and international documents:

- [Law on Official Statistics and Official Statistical System:](#)
 - Principle 4 - *Commitment to Quality* - which ensures that the official statistics producers in Montenegro work and cooperate in accordance with the international principles of quality of statistical system;
- [2019-2023 Official Statistics Development Strategy and 2019-2023 Official Statistics Programme](#)
 - Aim 5 – *Further implementation of Quality Code of Official Statistics;*
- [Peer Review Report on Compliance with the Code of Practice and the Coordination Role of the National Statistical Institute – November 2018;](#)
- [Quality Policy;](#)
- [Quality Declaration;](#)
- [Commitment of Confidence;](#)
- [Quality Declaration of the European Statistical System;](#)
- [Article 338 of the Treaty on Functioning of European Union;](#)
- [Regulation \(EC\) No 759/2015 on amendments to the Regulation \(EC\) No 223/2009 on European Statistics;](#)
- [European Statistics Code of Practice.](#)

III. ANALYSIS OF SITUATION IN DOMAIN OF QUALITY MANAGEMENT

Statistical Office for the first time adopted the *Quality Management Strategy* (No 01-3428 from 13 November 2017). Parallel with continuous development and improvement of official statistical system, there are created conditions for new strategic document – The 2019-2023 Quality Management Strategy. The mentioned strategy will cover, in addition to existing strategic aims, also basic elements of TQM model, as well as the recommendations of the Peer Review Report on Compliance with the European Statistics Code of Practice.

The first Quality Management Strategy covers four basic elements of TQM model:

1. Customer focus;
2. Process-Orientation;
3. Participation of employees;
4. Continuous improvements.

For every element of TQM, there are defined activities and indicators for the implementation.

Activities implemented by the first Quality Management Strategy in Statistical Office

Elements of <u>TQM</u> model	Performance indicator
Customer focus	User satisfaction survey implemented in 2017
	Number of national quality reports for users increased
	1. <i>Instructions on manner of providing individual statistical data, without identifiers, for scientific-research purposes</i> adopted (No 01-3018 from 20 September 2018); 2. <i>Instructions on Recording and Keeping External Memory with Data from Administrative Sources</i> adopted (No 01-2393 from 18 July 2018)
Process-Orientation	1. Project task defined in September 2018 " Implementation of <u>GSBPM</u> Model Plan "; 2. Working group established for the introduction of <u>GSBPM</u> model; 3. Document " Description and guide for implementation and instructions for filling defined form of <u>GSBPM</u> model " prepared in Statistical Office; 4. Form and matrix for filling the field of <u>GSBPM</u> model

	<p>defined;</p> <ol style="list-style-type: none"> 5. Implementation on four statistical surveys using different data sources tested; 6. Adopted and published the Revision Policy (No 01-2329 from 18 July 2018); 7. Procedure for Business Trips in GRANT programme adopted; 8. Instructions for Preparation and Implementation of GRANT programme adopted; 9. Instructions on Financial Management in GRANT programme adopted; 10. Instructions for Public Procurement in GRANT programme adopted.
Participation of employees	<ol style="list-style-type: none"> 1. Calendar of trainings (national and international trainings and courses in area of official statistics) produced; 2. Staff satisfaction survey implemented; 3. System of internal communication developed on all levels; 4. Cooperation strengthened with the University Donja Gorica and general scientific and research community (participation of staff members of official statistics on the event “Survey Day”, as well as participation of staff members in <u>EMOS</u> postgraduate study programme).
Continuous improvements	<ol style="list-style-type: none"> 1. Quality Database established through an improved system of metadata; 2. “Contents and instructions for filling national quality report“ produced and published; 3. Metadata published on the website of Statistical Office; 4. There were signed 22 cooperation agreements with administrative sources; 5. Article 35 of the Law on Official Statistics and Official Statistical System of Montenegro amended (Official Gazette of Montenegro No 18/12 and 47/19); 6. New methods for data collection for the purposes of statistics introduced; 7. Analysis of reporting units’ overburden done.

The Strategy is planning to implement a new website of Statistical Office, as well as integration, both in terms of contents and technical integration from social networks. This activity requires the use of modern platform with advanced possibilities, thus the implementation of this activity is prolonged and put in the Quality Management Strategy for 2019 – 2023.

IV. QUALITY MANAGEMENT MODELS

Quality management models used in the official statistics of EU countries are:

- Total Quality Management (TQM);
- ISO 9000 Family Norms (Quality Management System);
- The EFQM Excellence Model (European Foundation for Quality Management);
- The Common Assessment Framework (CAF);
- The ESS CoP and the QAF - The European Statistical System Quality frame.

Statistical Office has chosen to implement the TQM elements which encourage development and improvement of institution functioning, production of official statistical results, as well as of every individual.

The main elements of TQM are:

1. Customer focus;
2. Process-Orientation;
3. Committed leadership;
4. Participation of employees;
5. Decision based on facts;
6. Continuous improvements.

In period from 2020 to 2023, Statistical Office focuses on the implementation of elements of TQM model connected with the operative objectives of the *2019 – 2023 Official Statistics Development Strategy*.

Objectives of quality management in Statistical Office

	Objectives of quality management in Statistical Office	Elements of <u>TQM</u> model
A.	Establishment of permanent dialogue with data users and development of partnership	Customer focus
B.	Further harmonization and innovation of official statistics in line with international standards/recommendations	Process-Orientation
C.	Education of statisticians as data scientist	Participation of employees
D.	Further implementation of Quality Code of Official Statistics	Decision based on facts
E.	Development of IT integrated system for collection, processing, publication and archiving of official statistics results	Continuous improvements
F.	Creating new data sources for the production of official statistics	
G.	Development of dissemination and communication in accordance with the needs of digital society	

Defined objectives in Statistical Office will be in details developed through the following documents:

- Implementation plan on establishment of quality management system;
- Guide for implementation of Quality Management Strategy.

V. CUSTOMER FOCUS

A. Establishment of permanent dialogue with data users and development of partnership

Description of objective:

Statistical system of Montenegro supports the approach based on permanent dialogue with users. The cooperation between (potential) statistical users and official statistical producers has to be based on the trust of users in the official statistical data and high perception of official statistics' usability.

Statistical Office strongly recognizes a need for the establishment of cooperation between official statistical producers, users, and scientific community. Accordingly, Statistical Office supports other official statistical producers in the implementation of quality management to improve the total quality of official statistics in Montenegro, ensuring further guidelines and support in form of technical assistance and training on implementation and monitoring quality in statistical processes and products. A special attention will be devoted to a timely access to quality reports of other official statistical producers, as well as their releasing as soon as they become available.

In the next middle-term period, Statistical Office will perform the customer focus via the improvement of official website, respecting the recommendations obtained after the carried out User Satisfaction Survey. The user satisfaction survey is a traditional tool for quality management. Obtained assessment of quality reflects the experience of users based on their previous use of products and services which indicated on two components: adjustment of products to needs and wishes of users and reliability of products. Via the IPA 2017 project, there has been created a dissemination database (SQL database) which is a precondition for the production of new, dynamic website with necessary advanced functionalities for the work with the data. Statistical Office is planning to modernize methods for data dissemination and to make more user-friendly access to official statistical data. In addition to regular statistical releases and Excel tables, users will be able to search database by different criteria; to perform filtering and sorting of data, and in this manner to perform additional analyses meeting their needs. Additionally, it will be possible to export such obtained data in CSV and Excel format. This approach will be especially useful for scientific and research, as well as business community.

Easier access to official statistical data and development of proactive relation with wider scope of users and potential users are activities planned for the next period (European Statistics Code of Practice, indicators 10.2 i 15.2).

Production of *Plan on Active Cooperation with Media* based on recognizing a vital role which media has in the dissemination of official statistics and influence on public perception regarding the official statistics will be a part of this objective (European Statistics Code of Practice, principles 11 and 15).

Plan for Improvement of Statistical Releases under the statistical system needs to put an accent on geographical comparability and comparability over time, as well as to improve the visualisation and to ensure an analysis of values, so that we can help users to understand the main messages (European Statistics Code of Practice, indicators 14 and 15).

Activities for implementation of objective:

- Establishment of permanent dialogue with media representatives as data users;
- Creation of modern website as the main tool for the dissemination of official statistics;
- Implementation of user satisfaction survey;
- Production of *Plan on Active Cooperation with Media* under the dissemination strategy;
- Preparation of plan for improvements of statistical survey releases;
- Assessment of current and future users' needs as the most important quality evaluators;
- Development of statistical community through formal establishment of partnerships;
- Organization of educative programmes for the main users.

Indicators:

- Dissemination Strategy produced;
- Number of educative programmes for media representatives held;
- Dissemination database created aimed at easier data access;
- *User satisfaction survey* carried out;
- Number of implemented suggestions given by users aimed at the improvement of statistical survey releases;
- Number of pilot surveys carried out;
- Number of new surveys based on the users' requests;
- Number of formally established partnerships via cooperation agreements and implementation of existing partnerships;
- Improvement of statistical literacy.

VI. PROCESS-ORIENTATION

B. Further harmonization and innovation of official statistics in line with international standards/recommendations

Description of objective:

In the next period, Statistical Office will continue to participate in the work of international statistical bodies/organizations aimed at creation of mutual assumptions for a full implementation of international methodologies and innovation of the official statistics production process in line with new statistical standards of international organizations whose member is Montenegro.

Respecting the dynamics of European integration process and a fact that the negotiation chapter 18 - Statistics, opened at the end of 2014, in the next five-year period, there is planned to fulfil all preconditions for final benchmarks of this chapter, and with this also closing of negotiations for the area of official statistics. Nevertheless, an obligation of further harmonization, innovating process and introduction of new statistical surveys also remain after closing Chapter 18 - Statistics, especially having in mind the challenges official statistics face with in the modern society.

Activities for the implementation of objective:

- Implementation of activities aimed at the fulfilment of final benchmarks of Chapter 18 - Statistics in accordance with the 2019-2023 Official Statistics Programme;
- Higher availability of Montenegro official statistical data in the statistical databases of Eurostat, within deadlines defined by the transmission programs;
- Alignment with international statistical standards and principles of European Statistics Code of Practice.

Indicators:

- Methodologies of statistical surveys in Montenegro statistical system fully compliant with relevant methodological framework of European official statistics;
- Official statistical data on social and economic trends in Montenegro are available in Eurostat database, published in official releases and publications of Eurostat;
- Increased number of relevant datasets and variables transmitted to Eurostat, which are verified and published;
- High or full compliance of statistical domains in relevant reports of European Commissions which monitor the compliance level with the EU *acquis*.

VII. PARTICIPATION OF EMPLOYEES

C. Education of statisticians as data scientist

Description of objective:

Respecting the level of society's digitalisation, as well as 'data revolution', which opened new opportunities for development of official statistics, is one of key challenges for official statistics remain further development of knowledge and skills of statistician as professional and expert staff, as well as creation of new generation of statisticians as 'data scientist' from which will be expecting knowledge of new theories and methods by which Big Data are processed.

Additionally, the development of uniform mechanism for monitoring the use of human resources according to the main phases of statistical production will enable more effective planning, development, and implementation of new methods and data sources.

Nevertheless, new methods and data sources requires changes of existing methodologies, as well as adaptation of statistical production to new IT technologies, which requires from statisticians a continuous process of education and higher flexibility.

Activities for implementation of objective:

- Education of new generation 'data scientist' in line with the EU licensed Master programme (EMOS) and PhD studies in area of official statistics;
- Production of Human Resources Management Strategy;
- Production of application to measure working time by phases of statistical production;
- For statistical domains which are in the innovation process, to enable for employees to participate in the traineeship lasting for several months in Eurostat and NSIs.

Indicators:

- Number of employees that successfully finished the EMOS;
- Human Resources Management Strategy prepared with the training programme;
- Number of employees that successfully finished the traineeship lasting several months in EUROSTAT and NSIs for statistical domains which are in the innovation process;
- Application produced for the measurement of working time by phases of statistical production.

VIII. DECISION BASED ON FACTS

D. Further implementation of Quality Code of Official Statistics

Description of objective:

Under the European Statistics Code of Practice there are defined institutional environment, statistical processes and statistical results. Implementation of European Statistics Code of Practice's principles and provision of highly quality official statistical data are of key importance for further development of national statistical system.

Further implementation of European Statistics Code of Practice will refer to the implementation of TQM elements, and introduction of GSBPM.

Additionally, strengthening coordination inside the statistical system; production of clear definition 'official statistics', as well as criteria for qualification of other official statistics producers will be areas for strengthening the role of Statistical Office in the next middle-term period. In this manner, there will be determined which competent bodies produce 'official statistics' and qualify themselves as other official statistical producers (The European Statistics Code of Practice, principles 1, 2 i 4).

Statistical Office provides a support to other official statistical producers in form of training on performing monitoring quality in statistical processes and products, so that the total quality of official statistics in Montenegro is improved.

Activities for implementation of objective:

- Introduction and implementation of GSBPM which serves for description and archiving every statistical survey in standardized and harmonized manner;
- To introduce a practice of self-assessment and internal revision of statistical data quality;
- Production of clear definition 'official statistics' which will serve as a visible mark of quality;
- Defining criteria for qualification of other official statistical producers;
- Activities for the support (training and their permanent education) of official statistical producers in the implementation of quality management.

Indicators:

- GSBPM model implemented, by which mapping of process is enabled and which serves as a tool for the improvement of process;

- Continuous increase of implemented activities in accordance with the evaluation standards and defined principles of European Statistics Code of Practice, proposed in regular peer review reports;
- Implementation of TQM elements which represent a mutual framework of European Statistical System - ESS quality;
- Action plan concept defined aimed at the implementation of self-assessment and internal audit system, which is in accordance with the elements;
- Clear definition 'official statistics' created;
- Criteria for qualification of other official statistical producers defined;
- Trainings held and integration of other official statistical producers in the implementation of quality management done.

IX. CONTINUOUS IMPROVEMENTS

E. Development of IT integrated system for collection, processing, publication, and archiving of official statistical data

Description of objective:

Development of official statistics by using new methods for data collection as well as by using new data sources (administrative or other sources), will be a basis for the development of integrated system for official statistics production. It is planned in the next period to change the current system which is domain-oriented (a special system for collection, processing, and release of data is developed for every individual survey) and partly integrated to one integrated system which will be organized in terms of statistical processes.

Data exchange platform – *Government Service Bus (GSB)* will enable easier exchange of data from administrative sources.

Activities for implementation of objective:

- Development of IT integrated system which follows the business process of GSBPM model at the level of Montenegro statistical system;
- Further development and implementation of electronic data collection by using the CAWI method;
- Participation of employees in trainings for work on modern IT tools;
- Continuation of process of linkage to GSB.

Indicators:

- IT integrated system developed for collection, processing, publication, and archiving of official statistical data;
- Number of employees which participated in trainings for the work on modern IT tools;
- Linkage process to GSB platform finished.

F. Creation of new data sources for the official statistics production

Description of objective:

In previous period, official statistics was only based on traditional data sources (interview-based surveys and administrative sources). But, modern technological trends transformed many aspects of life in digital data, and thus opened new possibilities in terms of official statistics development.

So called 'data revolution' today created new sources which are considered to be valid for the production of official statistics (Big Data, Multisource, Internet of things, etc.). The mentioned sources can be complementary to traditional data sources aimed at improvements of timeliness, accessibility and other components of official statistics quality, but still they cannot replace them.

The usage of new data sources requires the development of new methods in collection, processing, and analysing data so that the quality can be guaranteed in accordance with the principles of European Statistics Code of Practice. It considers an introduction of new techniques in the data collection (CATI, CAWI, Web scraping, Web scanning, etc.) through new investments in the IT system.

In addition to the use of new data sources, a special attention will be devoted to further use of data sources which are possessed by public administration body in the official statistics production to reduce the costs of official statistics production and overburden of businesses and citizens.

Activities for implementation of objective:

- Further development of new methods in collection, processing, and analysis of data, what enables higher cost-effectiveness of statistical activities;
- Activities on using data sources under the competence of public administration bodies continued.

Indicators:

- Number of statistical surveys which use new methods in collection, processing, and analysis of data increased;

- Number of statistical surveys using administrative data sources increased;
- Number of surveys by which new sources and methods in the official statistics productions are tested.

G. Development of dissemination and communication in accordance with needs of digital society

Description of objective:

Official website of Statistical Office is a central channel for the dissemination of official statistical data. A new dynamic website of Statistical Office will also provide to the widest scope of users to work on the data from the dissemination database.

The development of new types of data releases, which will include data visualisation, animation, and digital publications, will represent a challenge for Statistical Office in the next period. The integration of official website with the internet social networks includes the opening of account on Twitter.

Activities for implementation of objective:

- Creation of modern website adapted to all types of desktop and mobile phones (so called responsive website) as the main tool for the dissemination of official statistics will also provide to the widest scope of users access and work with the data from dissemination database;
- Activities on the creation of account on Twitter.

Indicators:

- Dissemination Strategy;
- New, modern website created;
- Statistical Office's account created on Twitter

LITERATURE:

1. [Law on Official Statistics and Official Statistical System;](#)
2. [2019-2023 Official Statistics Development Strategy;](#)
3. [2019-2023 Official Statistics Programme;](#)
4. [Peer Review Report on Compliance with the Code of Practice and the Coordination Role of the National Statistical Institute – November 2018;](#)
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10. [European Statistics Code of Practice.](#)