**Institutional framework for quality management in official statistics**

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**Abstract**

*INSTAT in the recent years have worked on different activities to fulfil the requirements of the European Code of Practice. Quality is part of these requirements, so National Statistics Office must define their quality policy and make available to the public. INSTAT declares that the following principles: impartiality, quality of processes and products, user orientation, employee orientation, effectiveness of statistical processes, reducing the workload for respondents are taken into account when performing its tasks.*

*To maintain the public confidence in official statistics INSTAT have selected Total Quality Management (TQM) as the general model for quality management, quality assessment and quality improvement. The main objective of this model is to establish a general framework which will ensure that statistical production processes meets the highest standards as regards quality and efficiency.*

*This paper/presentation will provide more detailed information on the quality documentation and provide additional information around the quality reporting for INSTAT products. We will also present how quality culture has progressed since the launch of the first Staff Satisfaction Survey.*

**Keywords:** Quality management, Documentation, Efficiency, TQM

1. **Introduction**

In recent year’s quality has been one of the key development areas at INSTAT. It has been understood that a special importance in the process of production of official statistics and statistical outputs is quality management. Before 2017 the quality in INSTAT has been implemented in a piecemeal, rather than a holistic manner – it was seen as being related to the various aspects of statistical products, rather than as a guiding philosophy for the whole organisation (Report on Limited Peer Review of the Institute of Statistics of Albania, 2015).

INSTAT’s mission is to provide transparent, neutral and timely statistics that help users to judge on the developments of the transformation processes within the country. Accordingly, while working on making the data “fit for purpose”, quality is considered a fundamental aspect in the management of INSTAT as well as in the everyday work. Quality as a multidimensional concept is also taking into consideration respondent’s burden, improvement of effectiveness, training and knowledge management.

To build a quality culture of continuous improvements for the statistical processes and products, there is a need to have a mutual mission and a cooperative working environment. The culture of quality depends primarily on the commitment of the institution and this can be verified by the usefulness of training activities, which will influence the quality improvement, by decreasing rates of noncompliance with the European CoP and improvements in customer satisfaction.

**2. Total Quality Management**

Statistical quality is a very broad concept that includes all the activities carried out and the decisions taken by the producers of official statistics to ensure that official statistics meet the user’s needs and are appropriate for the purpose of their production.

During 2016-2017, INSTAT started many activities regarding quality management framework in order to improve compliance with principle 4 of the Code of Practice on quality commitment (Eurostat, 2005). INSTAT studied different models and experiences in EU Member States and decided to use Total Quality Management (TQM). TQM is a model that is free of charge and does not need yearly fees, which an institution like INSTAT cannot afford.

Based on TQM, INSTAT prepared and made available to the public the Commitment to Quality[[1]](#footnote-1) where it is stated that INSTAT is committed to highest quality and up to date statistics. A step forward was the development in 2017 of the Total Quality Management Implementing Strategy. The Total Quality Management Implementing Strategy is based on the definition of five principles, within the framework of which INSTAT will develop in the field of quality.

The adaption of TQM is a basic framework for the on-going work of INSTAT for evaluation of the statistical products and processes for internal and external users.

In the figure below are presented the five principles with their objectives, which follow the principles of the European Statistics Code of Practice.

TOTAL QUALITY MANAGEMENT (TQM) at INSTAT

**2. SATISFIED USERS WITH OFFICIAL STATISTICS**

2.1 Develop relationships with users (regular monitoring of user needs)

2.2 Monitor user satisfaction

2.3 Set up metadata management system

2.4 Use of modern dissemination tools based on user needs

1. **GOOD QUALITY OF STATISTICAL PROCESSES AND PRODUCTS**
   1. Monitor quality in statistical production
   2. Quality reporting

1.3 Introduce pilot phases for quality management

**4. IMPROVE EFFECTIVENESS OF STATISTICAL PROCESSES**

4.1 Optimize statistical processes

4.2 Set up and plan controlling instruments

**3. REDUCE THE BURDEN OF RESPONDENTS**

3.1 Increase the use of administrative data

3.2 Equally distribute response burden

**5. TRAINING AND KNOWLEDGE MANAGEMENT**

5.1 Train staff continuously

5.2 Monitor INSTAT staff satisfaction

5.3 Improve internal communication

* 1. *Good quality of statistical processes and products*

## *Monitor quality in statistical production*

The assessment of process quality is normally at least in part covered by self-assessments and audits (Eurostat 2009). Monitoring the quality in statistical production is the main priority aspect in INSTAT and in the framework of 2018-2030 Strategy of INSTAT, one of the sub objectives is the Statistical Audit.

The role of Quality Assurance and Auditing involves developing an effective and formal quality and audit management system in order to support the implementation of the European Statistics Code of Practice. In addition, INSTAT is responsible for the production of a set of Standards and Guidelines on the quality of statistical and non-Statistical Aspects. These standards and guidelines will form the basis of work for the statistical quality audits. During 2017, work has started to draft a statistical audit pilot scheme.

INSTAT have defined the activities for the auditing to plan and monitor the statistical activity: Procedure of statistical internal audit; Documentation process for the statistical product and Recommendations for quality improvements of statistical process audited.

## *Quality reporting*

The quality reporting in INSTAT have been introduced gradually and nowadays reports are produced and published regularly. The first step of this development was the preparation of a handbook containing clear directions on how the ESMS (Euro SDMX Metadata Structure)[[2]](#footnote-2) /ESQRS (Euro SDMX Quality Report Structure) should be prepared and who will be the persons that will take care of it. The second step was choosing a small number of statistical surveys for which the quality reports should have been prepared as pilots. The third step was the creation of a standard template, which included a list of quality information requested both by users and producers (SIMS structure). The template comprises an exhaustive list of quality information. The fourth step was the training for the INSTAT staff and national statistical system in preparing quality reports and implementation of TQM.

For the referential Metadata, SIMS version 2.0 is implemented as a standard. A separate system is developed for the referential metadata, which is being used to produce the referential metadata and quality reports (ESMS and ESQRS).

INSTAT has also been working on MetaPlus, a standardized system for documentation of structure metadata (adapted to the Albanian situation based on the core Swedish system). The evolution in structure and referential metadata is a major step ahead towards standardised documentation and quality assurance.

## *Introduce pilot phases for quality management*

The first step in the development of pilot quality management is the preparation of the questionnaire and the quality manual which will be the base materials for statistical auditing. The second step is the preparation of calendar for the statistical audit. For the 2018, two statistical surveys will be audited.

## *3.2 Satisfied users with official statistics*

## *3.2.1 Develop relationships with users (regular monitoring of user needs)*

INSTAT meets stakeholders to discuss the use and/or development of the statistics. When a new survey is being planned, or substantial changes have to be made to existing surveys, a working group or a steering committee is established. Such groups mainly comprise of INSTAT staff in the relevant field, representatives of interest groups (governmental and other international organizations) and experts in the subject matter area outside of INSTAT. Five regular user groups have also been initiated: National Accounts, Media relations, Agricultural statistics, Statistical business register (SBR) and Gender statistics.

Very important tool to understand users and producers perspectives is user workshop that INSTAT organize in yearly bases. Based on the feedback from the workshop INSTAT organizes smaller workshops with focused groups and prepare action plans that are part of yearly operational plan.

## *3.2.2 Monitor user satisfaction*

INSTAT strive to make its product as close as possible to user; it strives to recognize and meet user expectation and thus provide comprehensive fulfilment of their needs for official statistical data. The implementation of User Satisfaction Survey (USS) from INSTAT is part of the work to fulfil The Code of Practice, which was adopted in 2005 by the statistical institutes of the European Statistical System, explicitly addresses users "…to show that European and national statistical authorities are impartial and that the statistics they produce and disseminate are trustworthy, objective and reliable" (European Commission, 2005)[[3]](#footnote-3).

In April 2017, INSTAT conducted for the first time the user satisfaction survey[[4]](#footnote-4).

The sample consisted of users that have requested statistical data from INSTAT in the period from the beginning of the 2013 to December 2016. The questionnaire was sent via e-mail to 2,541 users. Links to the web questionnaire were placed on the INSTAT website, as well as on INSTAT official Facebook page, so that every interested user could participate in the survey. Questionnaire was completed by 512 users.

The first main purpose of this survey was to measure the user satisfaction through satisfaction index. Total INSTAT average grade is 3.22 in a scale from 1 to 5 and the overall index of the user’s satisfaction with INSTAT is around 64.4%.

The result of this survey were analysed deeply to assess the user needs. Based on these results INSTAT took actions to improve the overall index, especially in the areas with the lowest grade. Actions, such as: increasing the number of indicators in the statistical databases and putting more data in this platform and publishing as many as possible quality reports. Another action was to create a new more responsive and user-friendly website, by improving user experience and giving access to more information.

INSTAT will regularly carry out the user satisfaction surveys and users workshop or focus group meetings, in order to raise the awareness of the users and the further development of INSTAT image.

*3.3 Reduce the burden of respondents*

*3.3.1 Increase the use of administrative data*

The increase of administrative data sources is the second strategic objective of 2018-2030 INSTAT Strategy. In order to increase inter-institutional cooperation during 2017 INSTAT has signed 19 Memorandum of Understanding (MoUs) with the line ministries and other public institutions that own administrative data with the aim to exchange the data by respecting the principles of statistical confidentiality and the legal framework. INSTAT in 2018, use around 57 administrative data, this data can be micro or tabular data.

*3.3.2 Equally distribute response burden*

Improving the quality of statistical information is constantly carried out by seeking the lowest possible costs and reducing the burden of response. From 2016, INSTAT monitor regularly the burden of the interview with two indicators: the number of questionnaires sent by INSTAT and the length of interview. INSTAT have started the work for the sample coordination techniques to lower the burden of respondents. For the household surveys, the burden is monitored to flag and not include same household in the consecutive years especially when it comes to continuous surveys or panel rotation surveys. However, certain indicators are taken into account on reporting burden for business surveys based on the number of enterprises included in survey frames, by size classes (number of employees) and the number of sampling frames which they belong to (absolute numbers and percentage shares) and the questionnaires they fulfil each year. For big enterprises, some steps have been taken to shorten the questionnaire and substitute data with administrative sources.

*3.4. Improve effectiveness of statistical processes*

*3.4.1 Optimize statistical processes*

INSTAT, in order to optimize statistical processes, has included in the 5-years Program for Official Statistics 2017-2021, the implementation of GSBPM, which will be used for assessing, describing and documenting all statistical processes needed for production of official statistics.

The structure of GSBPM adopted by INSTAT is the GSBPM version 5.0 developed by the UNECE / Eurostat / OECD[[5]](#footnote-5).

GSBPM in INSTAT is used for monitoring the statistical business processes (timetable) and for processes documentation.

The subject matter expert, responsible for the statistical activity, prepares a timetable with the timeframe necessary to carry out each specific task based on GSBPM sub-processes. These calendars, after being approved by all members of the working group for the statistical activity, are taken into consideration for the preparation of the annual operational plan and used to populate the system for monitoring the statistical business processes. This system generates different reports. Documentation of the statistical processes is very crucial not only for ensuring institutional memory, transferring the know-how but also reviewing the processes of statistical production. Until 2017 INSTAT employees have been documenting their job on different statistical production processes on ad hoc basis, not in a standardized format. The process of documentation of statistical products is one of the main inputs for TQM but also for the statistical audit. A template for process documentation based on GSBPM phases and sub-processes have been developed in 2017.

A specific calendar was built to document all statistical products produced by INSTAT by the end of the first quarter of 2019. After the documentation phase a working group will give recommendations on:

* Documentation content: to make sure that every process is documented and that the work is done in accordance with appropriate methods and standards;
* Used terms and definitions: to promote standardisation;
* Information completeness: to transfer the know-how to the new staff.

The documentation process increases the burden on INSTAT staff, but it is a crucial part of the optimization of statistical processes and to assure the quality of statistical production and take actions for further improvements.

*3.4.2 Set up and plan controlling instruments*

One of INSTAT objectives is to build an institutional performance assessment framework. During 2017, INSTAT has worked to identify 8 indicators that will serve to measure and evaluate the performance of the institution.

**PAF wheel for 2018**

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PAF will be an instrument for controlling INSTAT activities, to improve effectiveness of statistical processes. It will enable a clear line between planning, measuring and assessing performance.

In addition to be able to make an appropriate cost effectiveness analysis for the statistical activities implemented in INSTAT, it is important to measure the man hours spent per statistical activity. This can be done only by using a suitable time reporting system. For this purpose INSTAT built a system, where the employees report the working hours spent, based on GSBPM phases and sub-processes. This system has been piloted for three months in one directory and from January 2018 until June 2018 the system is being tested on the entire organization. The time reporting system together with the statistical processes monitoring systems, are tools that will be used to better plan and cost the statistical activities and fulfil the information needed for quality reporting on costs and burden.

*3.5 Training and knowledge management*

*3.5.1 Train staff continuously*

INSTAT is committed to communicate the overall statistical culture and provide the development of the skills, knowledge and expertise needed to fulfil its mission.

These skills cannot be acquired in today's Albanian education system due to the lack of relevant specialties in universities.

INSTAT considers the process of organizing continuous trainings and consultancy services essential to meet the ever increasing demands for the production and use of official statistics in the country.

The process of organizing training and consulting services is complex and inclusive. It includes not only training in meeting the needs for professional growth of INSTAT staff and other statistical agencies, but also in improving the use of statistics by ministries and other institutions, individuals, electronic and print media.

In order to realize this process, the Training Strategy has been prepared, in the content of which are described also the functions of the Statistical Training Centre, which is located in INSTAT premises and is managed by INSTAT

A questionnaire has been prepared and fulfilled by all INSTAT staff, in order to evaluate training needs. This questionnaire was divided in two different sections: the demographic one, describing demographic information of employee and the training needs, which were grouped in five areas: training on statistical software; general training on statistics; training on statistics by theme; training on management and organisational and administrative training. Training needs are also assessed during the periodic performance appraisals, where areas where employees need to increase professional capacities are identified.

*3.5.2 Monitor INSTAT staff satisfaction*

To realize the mission and vision according to the Principles of the European Statistics Code of Practice, INSTAT is committing for leadership, partnership, staff satisfaction and continuous improvement[[6]](#footnote-6). In December 2016 INSTAT conducted for the first time the Staff Satisfaction Survey(SSS). In specific parts of the questionnaire, staffs were able to write their proposals and suggestions for improvements. The staff satisfaction was measured by the American Customer Satisfaction Index (ACSI)[[7]](#footnote-7). The index staff satisfaction in INSTAT in average grade is 3.53 or expressed in percentage in around 70.6%. This index is measured in a scale from 1 to 5.

The result of this survey were analysed and an action plan has been developed to improve the overall index, especially in the areas with the lowest grade, such as communication, leadership and salary level.

Related to leadership INSTAT has planned for 2018 training courses on management, coaching and mentoring and leadership.

In 2017, one important action, towards improvement of the staff satisfaction, was the increase of the salary level for all INSTAT staff. The findings of this survey have been used to improve the questionnaire for the next round, going more in details in the areas that was consider more problematic. SSS will be baseline for some of the indicators of Performance Assessment Framework.

*3.5.3 Improve internal communication*

Internal communication is a very important aspect of an organisation. Information must be disseminated to the relevant staff in an effective, appropriate and quick way.

Based on the findings of the staff satisfaction survey a gap in the internal communication has been identified. An action plan has been elaborated to improve internal communication and employee satisfaction. A monthly newsletter has been lunched in 2017 with information regarding INSTAT main activities, publications, missions, study visits and workshops. A dedicated part of this newsletter is the section prominent staff, where two selected staff write about their professional and personal values, their passions and the journey of working in INSTAT. Another action taken for communication improvement is weekly meetings, to discuss problems and possible solutions. An intranet has been planned to be developed to provide or support INSTAT processes and objectives and enhance internal communication.

A working group has been established to work on the organisation of external events to create opportunities to the staff to meet and bond outside the institution. Events such as volley championship, daily trips, culinary and music activities are being planned for 2018 as well as charity and social enterprises.

**4. Conclusions**

INSTAT in the last years have been working on improvement of the quality in the overall process of statistical production. Previously the quality concept has been implemented from each actor involved in the statistical production process. Nowadays, based on the Total Quality Management framework, this concept is treated in a holistic way, as a very important dimension for the whole organisation. Awareness on the importance of quality has been increased and an Implementation Strategy for the Total Quality Management has been developed with concrete indicators that will be followed up over the years. To increase public trust on official statistics, INSTAT during 2017 has been publishing Commitment to Quality and several quality reports. INSTAT is working on the adaption of international best practices and standards to ensure high quality in statistical products. Standards, such as GSBPM, are being used to document and monitor the statistical production process, helping in the implementation of quality management. All aspects developed in the context of quality management have led to an increase in staff culture regarding various aspects of statistical quality. The production of quality reports and documentation of processes is now considered a normal task and is not seen as an overload for the production of official statistics. The Staff Satisfaction Survey is considered by INSTAT staff as a mean for expressing the different aspects that need improvement, as its results have led to direct actions to improve human resource management. In order to monitor and assess user’s perceptions regarding official statistics, INSTAT has been conducting on yearly bases User Satisfaction Survey. Results of User Satisfaction Survey have been used to take concrete actions for improvement as well as follow up indicators.

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