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QUALITY IN OFFICIAL STATISTICS USING EUROPEAN STATISTICS CODE OF PRACTISE AS A FRAMEWORK

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ABSTRACT

To build trust for the statistics in the society and for the national statistical institute (NSI) high quality of official statistics is a key issue. High quality of official statistics is therefore important.

But how does the society know that the quality is good? And how can the NSI prove that the disseminated statistics have good quality?

One way is to follow international guidelines and framework for quality measures and to publish quality indicators. One useful quality framework is **European statistics Code of Practice, CoP**. The European Code of Practice is based on 15 principles. Governance authorities and statistical authorities in the European Union commit themselves to adhere to the principles fixed in this code covering the institutional environment, statistical processes and outputs. A set of indicators of good practice for each of the 15 principles provides a reference for reviewing the implementation of the Code.

It takes time to implement the CoP and to measure all indicators but the CoP may work as guide and some indicators can be chosen as a start.

Institutional environment
Institutional and organizational factors have a significant influence on the effectiveness and credibility of a statistical authority. Example of principles are professional independence, mandate for collection of data quality, commitment and statistical confidentiality.

Statistical processes
European and other international standards, guidelines and good practices must be fully observed in the processes used by statistical authorities to organize, collect, process and disseminate official statistics. Examples of principles are sound methodology, appropriate statistical procedures and non-excessive burden on respondents.

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Statistical output

Available statistics must meet users´ needs. The important issues concern the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comparable across regions and countries, and readily accessible by users.

The documentation of the principles is of great importance for the users, especially the principles and indicators of the statistical output. The use of some kind of Metadata system is recommended.

Statistics Sweden has been working with different aspects of quality over the time and CoP is today an important basement. During the last five years much attention has been given to the analysis of the statistical processes.

For the moment the Quality Management system at Statistics Sweden include four key issues:

- Quality framework: T**he EFQM Excellence Model**
- Methods for continuous improvement work: **Six Sigma**
- ISO 20252 Market, opinion and social research
- Methods for evaluation and follow-up: **Internal auditing**.

To build trust for the statistics in the society and for the national statistical institute (NSI), high quality of official statistics is a key issue. But how does the society know that the quality is good? And how can the NSI prove that the disseminated statistics have good quality? And how will you define quality?

When talking about the quality of statistics the focus has often been on sampling errors or other indicators of statistical output. But during recent decades more focus has been put on the whole context of the statistical production. Quality work encompasses, to a larger or smaller extent, all activities at a statistical office. Different models have been developed as Total Quality Management, Balance Scorecard, EFQM, Six Sigma and EU's Code of Practice. There is an agreement that quality is dependent on many different factors or components and you have to take into account the quality of the organisation, the quality of the processes used and of course the quality of the products. In order to improve quality it is important to consider the interdependence between quality actions. As an example, a higher organisational quality is important to improve product quality, while at the same time the actions taken to improve product quality will help also to improve organisational quality.

So when you want to define statistical quality you have to take into account institutional and organisation quality, process quality and statistical output quality. It is thus essential to work with all three areas simultaneously. In order to get an overview or a good structure both for users and producers you may follow international guidelines and framework for quality measures and publish quality indicators. The framework has to be well known, accepted and used by several agencies.

One useful quality framework is **European statistics Code of Practice, CoP**. The European Code of Practice is based on 15 principles. Governance authorities and statistical authorities in the European Union commit themselves to adhere to the principles fixed in this code covering the institutional environment, statistical processes and outputs. A set of indicators of good practice for each of the 15 principles provides a reference for reviewing the implementation of the Code.

It should be stressed that the transit to an organisation that works according to the principles of CoP or some other quality framework is a long process. It takes time to implement the CoP and to measure all indicators but the CoP may work as a guide and some indicators can be chosen as a start. The ultimate goal for a quality improvement strategy is that quality work will be an integral part of the ordinary work.

Institutional environment (CoP Principle 1 – 6)

Institutional and organisational quality refers to management, strategies, competence and processes of the organisation. Institutional and organisational factors have a significant influence on the effectiveness and credibility of a statistical authority. Examples of principles are professional independence, mandate for collection of data quality, commitment and statistical confidentiality.

Principle 1: Professional independence

"The professional independence of statistical authorities from other policy, regulatory or administrative departments and bodies, as well as from private sector operators, ensures the credibility of European statistics."

The statistical law pays an important role. Independence of the statistical agency has to be specified in law. Transparency of the statistical agency is also of importance with statistical work programs published as well as a follow-up to progress made. Statistical releases have to be clearly distinguished and issued separately from political/policy statement.

Principle 2: Mandate for data collection

Indicators; examples;

• The mandate to collect information for the production and dissemination of official statistics is specified in law

• The statistical authority is allowed by national legislation to use administrative records for statistical purposes.

Principle 3: Adequacy of resources

The resources available to statistical authorities – staff, financing, computers - must be sufficient to meet (European) statistics requirement.

Principle 4: Quality commitment

"All ESS members commit themselves to work and cooperate according to the principles fixed in the `Quality declaration of the European statistical system´".

Principle 5: Statistical confidentiality

It is very important that the statistical confidentiality is guaranteed by law.

Principle 6: Impartiality and objectivity

This principle includes some very important indicators:

• Statistics are compiled on an objective basis determined by statistical considerations

• Errors discovered in published statistics are corrected at the earliest possible date and published

• Statistical release dates and times are pre-announced

• All users have equal access to statistical releases at the same time.

Statistical processes (CoP Principles 7 – 10)

European and other international standards, guidelines and good practices must be fully observed in the processes used by statistical authorities to organise, collect, process and disseminate official statistics. Examples of principles are sound methodology, appropriate statistical procedures and non-excessive burden on respondents.

Statistical output (CoP Principle 11 – 15)

Available statistics must meet users´ needs. The important issues concern the extent to which the statistics are relevant, accurate and reliable, timely, coherent, comparable across regions and countries, and readily accessible by users.

Perhaps one of the most well-known principles is Principle 12: Accuracy and reliability. This principle includes the indicators:

• Source data, intermediate results and statistical outputs are assessed and validated

• Sampling errors and non-sampling errors are measured and systematically documented.

The documentation of the principles and indicators are of great importance for the users, especially the principles and indicators of the statistical output.

The use of some kind of Metadata system is recommended.

Statistics Sweden´s quality work

Statistics Sweden has been working with different aspects of quality for some time and CoP is today an important framework. During the last five years much attention has been given to the analysis of the statistical processes.

For the moment the Quality Management system at Statistics Sweden include four key issues:

- Quality framework: **The EFQM Excellence Model**
- Methods for continuous improvement work: **Six Sigma**
- ISO 20252 Market, opinion and social research
- Methods for evaluation and follow-up: **Internal auditing**.

Statistics Sweden works constantly to improve its operations. To assure good quality in our surveys, we have a quality policy and we use standardised routines, guidelines and handbooks in the production of statistics.

Since 2008 statistics Sweden has been using the framework called the EFQM Excellence Model as support for its operational development. The model is based on a number of criteria that are central to the work to improve the quality of operations: leadership, employees, operational planning, partnerships/resources as well as results. This particular framework facilitates cooperation and benchmarking with a number of other organisations.

Since January 2008 a central quality unit has been formed in the Research and Development Department. It coordinates the quality work and today the unit consists of four people. The work is led by the Quality Head who has regular follow-up meetings with the Director-General. At the initiative of the management group, 12 quality coaches were appointed in autumn of 2008 to work part-time with quality issues.

Statistics Sweden strives to standardise parts of the statistics production that have considerable influence on quality and costs. On our intranet we have a feature called Operational support that describes Statistics Sweden's common methods, tools and working methods. Information is available about the various stages in the statistics production process with technical documentation, guidelines, templates and checklists to carry out the statistics production process.

Operational support is a helpful tool for all statistics production at Statistics Sweden. It covers statistical surveys based on direct collection, administrative data, other existing registers or a combination of these sources. The end products are the statistics or final observation registers.

We work continuously to improve the statistics production process. As a part of this goal, Statistics Sweden is working towards certification in 2012 according to the international standard ISO 20252 for marketing, opinion and social research. Among other things, the standard places demands on the system for quality management, customer contacts, data processing, employees' competence and all the stages in a statistical survey.

Statistics Sweden plans to use the tools offered by the Six Sigma system in many of the projects for improvement and development. Three employees from Statistics Sweden have received 20 days of training for the Six Sigma methods. Due to other priorities, work with Six Sigma has been postponed. Statistics Sweden will work on an internal approach for Six Sigma.

When a statistics assignment has been completed, we follow up the results in relation to the expectations of the customer by what we call a customer satisfaction questionnaire. The customer has an opportunity to give his/her viewpoints on how well Statistics Sweden has done the job. The viewpoints of the customers then form the basis for future improvements and development, as well as comprise an important variable in the results section of The EFQM Excellence Model.