

Sufficient Quality for Official Statistics – The Swedish Approach

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Abstract

A concept, which is called sufficient quality for official statistics, has been introduced in the Swedish statistical system for official statistics. The system is decentralised, and responsibility has been given to 25 government authorities. Statistics Sweden has both such responsibility and a coordinating role. Each government authority is responsible for which statistics it disseminates as official statistics. The guidelines for official statistics state that the quality should be “sufficient”. The quality can, of course, not be sufficient for every use. Instead, the specification for sufficient quality focuses on the intended use. A set of criteria has been developed to support the government authorities and the system. There are three groups of criteria: Laws-Ordinances-Instructions, User Contacts, and Design-Production-Evaluation.

Keywords: quality aspects, user orientation, statistical system

1. Introduction

There is work in progress for the Swedish statistical system on a topic briefly called “sufficient quality”. First some background information is given, which is largely taken from the annual report of the Council for the Official Statistics (2003 and 2004). Then the task, the approach, and some results and plans are presented.

A reform of Sweden’s official statistics was implemented in the middle of the 1990s. Much of the responsibility for official statistics in defined sectoral areas was transferred from Statistics Sweden to 24 other government authorities. One of the main purposes of the 1994 statistical reform was to give the users more influence over the statistics. It was expected that the reform would result in the statistics having greater relevance to their users, that the statistical system would be more flexible and that the efficiency of statistics production would improve. Statistics Sweden had already been responsible for coordinating and monitoring the official statistics. This role was strengthened somewhat.

Swedish Parliament has decided that Sweden shall have official statistics for general information, investigative activities and research. The government determines the subject areas and statistical areas for

which official statistics are to be produced, and which authorities are to be given responsibility for statistics. The statistical authorities decide on the content and scope of statistics within the statistics area(s) for which they are responsible, unless otherwise specified by the government. The statistical authorities also decide – in consultation with important users of the statistics and taking into account the demands made by the European Union (EU) – which objects and variables are to be studied, which statistical measurements and study domains are to be used, the periodicity of the surveys etc.

The concept statistical product is used in the system to describe which statistics are produced. Each statistical product is described in a quality declaration, which is a quality report for users. Normally, but not always, there is a one-to-one relationship between a statistical survey and a statistical product.

It is important to separate the Official Statistics of Sweden from the system for Official Statistics of Sweden. The former – called SOS for Sweden’s Official Statistics – comprises statistical products and statistics that the statistical authorities have decided are to be official statistics. The SOS-system includes the statistics, metadata, the production systems, final observation registers, publications, separate tables and databases. The system also includes laws, ordinances, regulations, general recommendations, guidelines, and tools – furthermore the statistical authorities, the Council for the Official Statistics (COS), and Statistics Sweden as the coordinating authority. The Council was established at Statistics Sweden in 2002.

2. The Task from the COS

The COS is an advisory body and shall consider matters of principle regarding for example the quality of the official statistics and issues on facilitating the response process for data providers. It shall promote cooperation between the authorities responsible for official statistics (AROS). Guidelines for decisions on contents and scope of the official statistics were adopted by the COS on 30 October 2003. One of the guidelines begins with a sentence like:

“The statistical authority determines whether the level of quality is sufficient in relation to the use of the statistics.”

The COS later requested its working group for methodology and quality to study how to determine a sufficient quality level for official statistics, and also how to produce suitable indicators for this. A sub-group has been working on this task, and five persons have participated: two from Statistics Sweden and three from other AROS. This particular task is nearly finalised.

3. The Quality Concept

The Swedish quality concept is user-oriented. There are five main quality components similar to those of the quality concept of the ESS (the European Statistical System). They are: contents, accuracy, timeliness, comparability and coherence, and availability and clarity.

The quality measures that are tied to the quality components are first more or less obvious to define, then more or less easy to estimate, and finally more or less easy to comprehend. For example, punctuality is easy in all respects, whereas accuracy is both easy and difficult. Overall accuracy estimates are difficult to achieve for most measures and situations. The non-sampling errors contribute to this fact. There is also a variation between users in their interest and in their knowledge about accuracy measures.

There is a quality declaration (report) for each statistical product. The user shall be able to decide whether or not a statistical product is appropriate for his/her purpose. There is, again, a considerable variation between users in several important respects: use, understanding, assessment, requests etc.

It is important to take not only users into account but also usages. Even if the focus is on the user, the usage should be the primary factor when considering the quality needs and requests.

The AROS, the producer, and the users all need quantitative measures and estimates of the quality components. Otherwise it is difficult to know whether the requests are fulfilled or not. Especially for the users pedagogical descriptions are important. The quality information that the AROS needs in its work is similar to that in the quality declaration, but it is more detailed.

Different users may have different requests and different views on the precedence of the quality dimensions. The AROS has the task, which may be difficult, to summarise priorities and choose.

4. A More Precise Wording for Sufficient Quality

The first part of the work concerns the guideline statement “the level of quality is sufficient in relation to the use of the statistics”. Obviously an AROS can neither be aware of all usages of the official statistics nor adjust to all usages. This has led to the inclusion of the word intended resulting in the modified guideline statement:

“Official statistics shall have sufficient quality in relation to the intended use”.

The intended use can be very specific or cover a set of purposes.

The next part of the work is devoted to what was initially called indicators for sufficient quality. There is not an obvious way of construction. The difficulties are enhanced by the fact that measures of the quality components and estimates are not easily available.

Some important starting points given the statement about sufficient quality for official statistics:

- It is a clear target that is related to the statistics product.
- The quality characteristics are to be measured or at least described.
- This puts a responsibility on the AROS to decide both which statistics are to be official and the quality level of these statistics in order to be sufficient. It implies a responsibility for the AROS to investigate, value, and prioritise needs for statistics. This is so for different usages and different user groups including the general public. Costs and budgets need to be taken into account, of course.
- This also makes the AROS responsible for the production process being planned and conducted so that the quality achieved is at least equal to the sufficient quality. This requires an active follow-up procedure (evaluation).
- Through good and necessary user contacts, the “intended use” can satisfy the important/heavy user requests.

If the AROS is not producing the statistics itself, it is important for the producer and the AROS to plan together and also follow up together.

The wording about sufficient quality gives a meaning and implication to official statistics. It can be considered as a form of quality guarantee.

5. A Set of Criteria for Sufficient Quality

The AROS makes the judgements about sufficient quality and official statistics.

The construction with a set of criteria provides both information to the users and support to the AROS. Active quality work is needed to achieve sufficient quality. The criteria have their starting point in the quality concept and quality characteristics, in intended use, user focus, and users perception of quality. The criteria put requests on the quality of the statistics and on factors that influence the quality. Since there are not always direct quality measures, indirect measures are also included. Each criterion has a purpose, and the criteria together make up a structured support.

Some criteria deal with the cycle Design-Production-Evaluation that always goes on in regularly conducted surveys. The word evaluation is here used in a somewhat loose sense, rather like follow-up.

Different types of criteria have been discussed. A route that was not chosen was to prescribe overall minimum levels/requests. Some such suggestions had the following form: the production time is at most equal to x days for monthly statistics, the accuracy is within $\pm y$ percent, and a special study is needed if the non-response rate exceeds z percent. These suggestions were quickly dismissed. Accuracy requests vary considerably between types of statistics, between domains of estimation, over time etc. The effect of non-response depends on much more than the non-response rate, for example the strength of auxiliary information.

The criteria have been grouped in three groups:

- Laws-Ordinances-Instructions
- User Contacts
- Design-Production-Evaluation

The first group is an obvious one to fulfil and there is nothing new here.

The second group of criteria contains for example a clear statement of the purpose of the statistics, documentation of the user contacts, the fact that the planned quality is based on the dialogue with the most important users, and an annual evaluation.

The third group deals with the survey cycle, and there are criteria about for example standards, methodology and scientific principles, use of other already existing data sources, consideration of the respondents and their burden, questionnaire design, quality studies, and publishing dates. Furthermore, the sufficient quality

level is emphasised in criteria related to both design and evaluation. This is the case even though it is difficult to obtain estimates for some quality components.

Documentation is important both for understanding and for the dialogue between the AROS/producer and the users. It is involved in several criteria.

Many criteria requests are already in place in the SOS-system, for example laws and some documentation requests. Other requests may be new for some products and AROS, depending on what procedures are currently in use. The ambition level is somewhat flexible for several criteria, and the level has to be sensibly determined, for example with regard to the statistical product and its importance.

Each criterion is written as a brief statement with an explanation and a motivation, the latter for guidance. As already indicated, there is no simple connection between many criteria and the quality components.

6. Commitment and Follow-up

A suggestion, which was received positively, is that each AROS can choose to make a commitment to work according to the description of sufficient quality and to fulfil all relevant criteria for all its official statistics from a particular year and onwards.

The follow-up by product is to be made by the AROS itself. The COS will make an overall description for the SOS-system.

7. Near and Future Work

The sub-group has worked in periods during more than a calendar year. When the AROS were consulted on a preliminary version of the report, they were quite positive overall. They had suggestions for improvement and clarification, which lead to further development. The Scientific Council of Statistics Sweden was involved at a later stage and also contributed substantially to the results.

The aims for the near future are to finish the report, to inform all the AROS, and to provide support and training for the implementation.

There are several ongoing activities at the European level, for example with quality indicators and with a Code of Practice. There are also thoughts about "a label for European Official Statistics". Hence, in a longer time perspective there will be both national and international experience to build on to improve the criteria and the support.