

# The final steps of the journey towards an ISO certification

Implementing ISO 20252 for Market, Opinion and Social Research  
at Statistics Sweden

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## 0. Abstract

As presented at Q2010, Statistics Sweden has for the last years worked towards a certification according to the international standard ISO 20252 for market, opinion, and social research [1]. It has been a truly challenging task, however deeply rewarding, and since March 2014 the agency is certified. The effort to achieve the certification has been extensive and largely comprises improvement work that would have been prioritised at Statistics Sweden regardless.

The initial quality efforts at Statistics Sweden for the endeavour towards certification were presented in a paper at the Q2010 conference [2]. In this paper the experiences from six years of quality work are presented.

The work that has been invested into preparing Statistics Sweden for an ISO 20252 application has proven to be valuable and has generated a wide range of improvements in both our products and processes. There has also been a clear rise in the competence level among employees when it comes to quality aspects, such as quality assurance, quality control and quality management.

The ISO 20252 comprises hundreds of requirements. One main component is the requirement of an implemented management system. Statistics Sweden has, in accordance with the standard, developed and implemented routines for internal audits, coding validation and telephone interview monitoring. Further, the systematic approaches for disclosure control, estimation of variances and pre-testing of questionnaires have been improved.

This presentation will cover what we have learned as an organisation. We will share problems as well as solutions. It is not the certificate that is the main objective of the agency, but the process of getting there, even though the certification signifies that the agency's products are produced in a quality assured manner.

## **1. Background**

The work on quality at Statistics Sweden aims at fulfilling the requirements of different quality frameworks within the field of statistics, both international agreements [3], as well as national frameworks [4]. The UN Fundamental Principles of Official Statistics [5] provide a common basis for all these frameworks. Statistics Sweden has chosen to implement the field specific standard of ISO 20252 to facilitate the agency in its compliance with the requirements in other frameworks. For example, ISO 20252 together with the national Swedish guidelines, Sufficient quality and criteria for official statistics [4], cover most of the requirements in the European Statistics Code of Practice [3].

During the last few years, the Swedish Government has required a more detailed reporting of quality in the agency's statistics. One means to comply with this requirement is to follow ISO 20252.

Users and customers often request some sort of statement from a given producer of statistics on the quality of the statistics and how they are produced. This aspect is most prominent in calls for tender where quality is compared among competing performers. The ISO 20252 gives a clear description of what processes should be quality assured in a statistical product or survey which Statistics Sweden regards as an advantage in these types of contexts.

Statistics Sweden is also moving towards a more process-oriented way of working which includes standardised methods and tools, work instructions and good order in the production of statistics. The implementation of ISO 20252 has facilitated this journey. Clear instructions are available to all employees via the agency's Process Support System (PSS). This system consists of standardized common routines, methods and tools developed to support the statistical production process. In addition to the PSS there are product/survey specific work instructions that have been developed. The requirements of ISO 20252, as well as other requirements, are integrated in the PSS, thereby assuring quality in our work.

## **2. What does it mean to work according to ISO 20252?**

An ISO standard describes what to do, but not necessarily how. Standards are valid worldwide and developed in international working groups where experts from different organisations compromise in order to find the best common practice.

Statistics Sweden participated in the development of ISO 20252, a task that started in Spain in 2002. The first version was complete in 2006 and a revised version in 2012. Within the private sector many international companies in the surveying field are certified according to ISO 20252. It is a clear advantage to be able to refer to a common standard when surveys are carried out in many different countries.

Quality assurance in general means that the work is executed in an environment and in a way such that the risk for errors is minimised. ISO 20252 has been developed in order to indicate a minimum level of quality assurance for carrying out a survey.

The standard includes hundreds of requirements for all relevant parts of the statistical production process. Here are some examples:

- Work is planned to be completed on time
- Methods are used to assure good quality in relation to client expectations
- Employees have sufficient competence
- Data processing is carried out in a way that minimises the risk for error
- Data transfers are correct
- Coding is validated, e.g. coding of the variable occupation according to an occupation classification
- Interviewer monitoring
- Scanning validation and data entry validation for paper forms
- Validation of accuracy and completeness of the final results
- Requirements on documentation, version identification and traceability to the product/survey and production round.

Other examples of client and user benefits are the pre-testing of questionnaires, the use of checklists for critical process steps and routines to manage problems and complaints.

### **3. Six years of work is now finished**

In March 2008 Statistics Sweden initiated the work of adjusting internal working routines to enable an ISO 20252 certification. The first step was to interpret and clarify the standard's requirements and to train about 300 employees, mainly managers and product managers. Ten quality coaches were appointed in the organisation and trained. The next step, during 2009, was to compare 200 statistical products to each requirement of ISO 20252. This effort made it clear where improvement work was needed. Further, five development projects were initiated to manage cross-organisational deficiencies in Statistic Sweden's system for quality assurance and quality control.

The following five development projects were pursued in 2009-2012:

- Disclosure control, aiming at minimising the risk of disclosure that can lead to damage to individuals or companies. IT support for more efficient disclosure control of tables has been developed and an accompanying handbook has been updated.

- Coding validation, aiming at minimising the error in the coding process. A new common IT tool and common working routines for coding has been developed and implemented.
- Validation of telephone interviews, aiming at minimising the error in the data collection process. Techniques and routines to systematically monitor telephone interviews have been developed and implemented.
- Estimation of variances, aiming at describing the uncertainties/error sources in statistics produced. The estimation of variances was carried out for all relevant products/surveys where such estimates were missing.
- Pre-testing of questionnaires, aiming at minimising the errors that occur due to deficiencies in the questionnaires. A systematic approach to pre-test questionnaires has been developed and implemented.

Initially, only five percent of the products showed complete compliance to all of the standard's requirements. In the follow-up in May 2010 this proportion increased to 46 percent and in October 2011, a total of 84 percent showed compliance. It should be noted that both of these figures were based on self-assessments. It took longer time than expected to reach the goal of fulfilling the standard's requirements for all products. This delay was partly due to the underestimation of the need for resources to implement the results from certain development projects in relation to the organisation's need at hand for these e.g. for disclosure control. Also, the development of the telephone interview monitoring system had to await a technical upgrade of the telephone exchange which was complete first in September 2012. The telephone monitoring was successively implemented afterwards starting with the Labour Force Survey.

Parallel to the improvement, adaption and development work, the content of the PSS was complemented and improved to ensure that all of the standard's requirements were integrated in the support available to the employees.

The ISO 20252 also requires an organisation for internal audits to ensure compliance to the standard. In 2011 ten auditors were recruited internally and trained in auditing techniques. These employees invest up to 20 percent of their time as auditors alongside their normal duties in various parts of the organisation. The internal auditing organisation was established in December 2011 and initially the audits showed deficiencies in the treatment areas of documentation and the treatment of versions. This resulted in a specific directive to all departments at the agency in the beginning of 2013 to review and update specific work instructions pertaining to the product. This measure was followed up directly by the Director General himself in conjunction with the agency's four monthly follow-up in May of the same year.

The Quality Manual of Statistics Sweden for ISO 20252 was developed in 2011 to describe how the agency works according to the standard. One of the objectives of this document, which is updated

annually, is to provide an overview to the external auditor who pays a visit to Statistics Sweden in connection with the annual certification audits to check how the agency complies with the standard. The Quality Manual is also a part of the documentation of the agency's management system.

Since March 2014 Statistics Sweden is certified according to ISO 20252. An external auditor and an expert from the surveying field visited Statistics Sweden for four days and based on interviews and documented reviews the certification was approved.

#### **4. Experiences from six years of quality work**

The implementation of ISO 20252 has contributed to the work with continuous improvements at Statistics Sweden and most employees have in one way or another been involved in the journey towards certification. The implementation work has also improved the level of structure and order in the production of statistics. Also the awareness of quality aspects in the production of statistics has increased dramatically. Some of the most important experiences are:

- It has been an advantage to use an existing framework as a basis for the improvement work. It gives focus to the organisation and points out deficiencies and future improvements.
- Important projects were carried out which were long since needed, e.g. a common coding tool and a telephone monitoring system for the validation of interviews.
- Other long-term deficiencies have now been addressed. This refers for e.g. to the pre-testing of questionnaires, disclosure control and the estimation of variances where this was relevant.
- It takes a long time to adapt an organisation to a new way of working and it is easy to be too optimistic in the planning process. Further, this process has revealed areas needing improvement where the agency has either been unaware or has underestimated. These factors have affected the adaptation work.
- The Government's requirement for regular and direct reporting of the agency's work on quality has given it top priority within the organisation.
- The involvement of top management has been extremely important.
- Continual follow-ups have driven the work forward.
- The involvement of employees all across the organisation has also been a success factor. The office-wide network of quality coaches who work together with the quality manager and several centrally placed quality coordinators has supported and strengthened the product improvement and adaption work.

A good example of a successful systematic process improvement effort is the agency's coding process. Today the coding process has uniform instructions, joint employee training, quality assured documentation, decreased risk of error, decreased dependency on specific employees, increased quality,

more satisfied clients and the prerequisites to carry out coding validation according to the requirements in ISO 20252. To improve a process in such a structured manner increases the quality in many products/surveys. In addition, there was need to replace outdated IT tools, the maintenance of which were very dependent on a few specific employees. The current common IT tool applies now for ten different statistical products.

In retrospect, some work could certainly have been carried out differently. We realize that if the organisation had a wider range of standardised processes and recommended routines already in place, this would have paved a better way for the work. However, the ISO standard only states what needs to be done and the adaption process might have been shortened by providing more standardised solutions from the start. On the other hand, the work on ISO 20252 helped to push the standardisation work forward.

The certification is but a beginning for the agency's systematic improvement work. The internal audits run continually to control the compliance to the standard and to feed the improvement work with ideas. An external certification body carries out a thorough audit every three years and smaller follow-up audits during the years in between.

In conclusion, the journey towards an ISO certification has proven valuable in several ways. It is clear that we would not have reached our goal unless the whole organisation had contributed. As an organisation, we take pride in this achievement while we are already starting to prepare for new challenging journeys in the wide field of quality and continuous improvement.

## 5. References

- [1] Swedish standard SS-ISO 20252:2012 (2012), Market-, opinion- and social research – Vocabulary and service requirements, Swedish Standards Institute.
- [2] Hoff, S., Japac L., Lisai D., Pettersson Å.(2010) The Journey towards an ISO certification – Implementing ISO 20252 for Market, Opinion and Social Research at Statistics Sweden, Q2010 in Helsinki. [http://q2010.stat.fi/media//presentations/Hoff\\_Q2010\\_paper\\_ISO\\_paper.pdf](http://q2010.stat.fi/media//presentations/Hoff_Q2010_paper_ISO_paper.pdf)
- [3] European Statistics Code of Practice, adopted by the European Statistical System Committee 28th September 2011.
- [4] Sufficient quality and criteria for official statistics (2006). Council of Official Statistics, Sweden. (*only in Swedish*) <http://www.scb.se/sv /Hitta-statistik/Publiceringskalender/Visa-detaljerad-information/?PublobjId=2598>
- [5] Fundamental Principles of Official Statistics, adopted by the UN Economic Commission for Europe 15th April 1992 and by the United Nations Statistics Division 14th April 1994.