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Innovations in official statistics at Statistics Sweden¹

The last couple of years have been very productive at Statistics Sweden when it comes to innovations and competence building. The process towards a fully process and customer oriented organisation has, in the long term, only just begun. We would like to tell you about the success of our newly implemented quality management system, but, as it is still in its very early stages, we will have to come back to this when we have more experience.

We are proud though, to present some of the innovative strategies and methods that we have already put into practice in our organisation. Below, we present, under the first theme, Innovations in governance, the Swedish system for governing the very decentralised system for official statistics. Under the second theme, Innovations in collection, we present some development strategies concerning interview surveys and self administered surveys. Under the third theme, Innovations in dissemination, we present some strategies and methods used by Statistics Sweden to disseminate data.

1 Innovations in governance²

In the middle of the 1990s, a statistical reform was carried out and responsibility for the official statistics was decentralised. In 1994, the responsibility for about half of the official statistics was transferred from Statistics Sweden to 24 other government agencies. Statistics Sweden continued to be responsible for multi-sectoral statistics, while other agencies were made responsible for other parts of the statistics. The main purpose was to give the users more influence over the statistics. In a government report in 1999 which evaluated the statistical reform of 1994, it was shown that the transfer of statistics from Statistics Sweden to other agencies had by and large gone smoothly, but coordination and the overall view of the statistical system needed to be strengthened. The evaluation report recommended that a council be established for Sweden's official statistics to improve coordination and the overall view of the statistical system.

A Council for Official Statistics was duly established at Statistics Sweden in 2002. The Council, which is an advisory body, deals with matters of

¹ Contributions to the paper are made by: Johan Stålnacke, Mikael Schöllin, Johan Eriksson and Jan Hörngren at Statistics Sweden

² For further information on the The Council for Official Statistics , see:
http://www.scb.se/templates/Listning2_93154.asp

principle concerning the availability, quality and usefulness of the official statistics, as well as issues on facilitating the response process for data providers. The Council also prepares an annual report on the official statistics, compiles an annual publishing plan, and maintains a register of the statistical agencies and their products. The Council also promote cooperation between the statistical agencies, and strives to develop and administer a statistics network.

The Council consists of one chair and six other representatives who are managers at the statistical agencies. There is a Secretariat for the Council at Statistics Sweden. The agencies to be represented in the Council are appointed by Statistics Sweden after consultations with all the statistical agencies, a principle that was established when the Council was founded in 2002. Members shall serve on the Council for three years. Statistics Sweden's Director General is Chair of the Council.

The practical work of the Council is organised in work groups. The work groups are made up of representatives for the agencies in the Council and representatives of other statistical agencies that expressed interest in this work. The work groups have handled for example issues on giving access to data, use of other agencies data, methodology and quality, electronic publishing, the situation for data providers, regional official statistics and the calculation of the costs of the official statistics.

The Council Secretariat also organises an annual conference on official statistics, to promote competence building and networking. The conference gives those who work with official statistics the opportunity to meet, exchange information and discuss current issues.

2 Innovation in data collection³

2.1 Interview Surveys

At Statistics Sweden as good as all interview surveys are carried out using Statistics Sweden's Computer Aided Telephone and Personal Interviewing system (CATI/CAPI), WinDATI. Statistics Sweden has two different group of interviewers. *Field interviewers*, located across the country (working from home), conduct face-to-face interviews and telephone interviews. The field interviewers receive a number of cases per survey/month/etc (a workload). The *CATI interviewers*, located in a centralized facility, conduct only telephone interviews and receive cases from a common database.

Within the scope of innovation/development work concerning interview surveys, Statistics Sweden at present focus on the following projects:

³ For further information on the development projects on data collection, please contact johan.eriksson@scb.se or jan.horngren@scb.se, who are responsible for the collection processes at Statistics Sweden.

2.1.1 Call Attempts Strategy in Surveys Among Individuals and Households

The choice of number of call attempts in a telephone survey is an important decision. A large number of call attempts makes the data collection costly and time-consuming and a small number of attempts decreases the response set from which conclusions are drawn and increases the variance. The decision can also have an effect on the non response bias. In this project we study the effects of number of call attempts on the non response rate and the non response bias in different surveys conducted by Statistics Sweden.

2.1.2 Monitoring as a Method to develop, evaluate and improve Questionnaires

Monitoring is a method for controlling quality. At Statistics Sweden we see three purposes with monitoring:

1. Control of the interview and the interviewers – for instance to give individual feedback to the interviewers. This is probably the most common purpose of monitoring
2. A part of the training of interviewers – both new interviewers and when experienced interviewers start with a survey they have not worked with before
3. Development, evaluation and improvement of separate questions or whole questionnaires

In addition to the topics above we have continuous development work with the WinDATI-system. On the agenda we also have a *common database for all sample units* in interview surveys, that is including the field interviewers.

2.2 Self-administered surveys

Many surveys are carried out using self-administered modes. Within this group, the following modes are used: paper forms, web forms, file transfer, hand-held computers and touch-tone data entry.

Paper forms is the traditional self-administered mode. Most paper forms are scanned, and data extracted to electronic format. Our goal is to be able to extract data by scanning for all paper forms.

Web forms are built and collected through the SIV system, which has been built at Statistics Sweden. The SIV system includes questionnaire construction (including built-in intelligence), presentation on the web, security and administration. In surveys to enterprises and the public sector, our strategy is to raise the web take-up rate⁴ by making web forms the main mode, and paper an alternative, rather than the opposite.

⁴ Today, Statistics Sweden has a web take-up rate of 10-20% in surveys to enterprises and public sector when paper forms are sent out in the first regular sending. If paper forms are not sent out at first but only in the reminder, a rate of 60-70% is quite easily reached.

File transfer is a convenient way to collect data from enterprises and the public sector while keeping the administrative burden of respondents low. More and more surveys offer a file transfer alternative when relevant.

Touch-tone data entry is used in a few short-term surveys in economic statistics. It is a mode that is good when only a few indicators are collected.

Our main targets in developing self-administrative surveys is to standardise data formats between modes and create an environment where mixed mode is a natural part of the survey setting. Beside that, trimming of the individual systems is also a high priority.

3 Innovations in data dissemination

In this chapter we describe some strategies and methods used to disseminate data. The first example describes a project aiming to facilitate dissemination of aggregated data from Statistics Sweden's databases. The second describes the MONA-system, that allows researchers to access micro data online. In the third part of this chapter, we describe a project aiming to provide a web service to support physical planning, infrastructure planning and planning decisions relating to the location of buildings and establishments.

3.1 Aggregated statistics from databases⁵

At Statistics Sweden all official statistics produced is published electronically. On Statistics Sweden's homepage (www.scb.se) data is published by HTML or as .pdf files (publications and popular tables and diagrams). There is also a Statistical Database (SSD) containing all official data that Statistics Sweden is responsible for, and most of the official data that other authorities are responsible for, connected to the website. The database contains a number of tables where selected information can be presented on the screen, in print or transmitted to the user's computer for further processing.

PC-Axis is a software, developed by Statistics Sweden, that handles very large statistical tables. PC-Axis can be used for processing ready-made statistics files or PC-Axis files from the database. The program can also pass on the statistics to other programs such as spreadsheets, etc. PC-Axis can be downloaded free-of-charge from Statistics Sweden's website. PX-Web is one program in the PC-Axis family. The program is used for publishing data on the Internet or Intranet.

The development of the PC-Axis family and SSD now focuses on new common components in .NET. The components read metadata and data from

⁵ For more information on the PX-family or on Sweden's Statistical Databases, please visit www.scb.se or contact *Information service* by phone: + 46 8-506 948 01 or by e-mail on: information@scb.se.

different sources with just about the same content but with different structure, e.g. px-files (ASCII) or SSD (sql). The information then restructures into a common structure and is placed in a middle-layer from which other components get metadata and data to create tables, process data or make different files.

With the new components different fractions of web-pages are created which gives more flexibility when creating or changing whole web-pages. A web-component can e.g. be the choice of a variable in a table or a button to go to the next page. Some components will be a possible to use for both SSD and PX-web and also for other web-applications. Components will also be developed to automatically create tables, diagrams and files from SSD.

3.2 Micro data Online Access (MONA)⁶

In Sweden data for individual respondents (micro data) are protected by the Secrecy Act. However, it is possible for Statistics Sweden to release confidential micro data to approved users for statistical and research purposes. Researchers can only apply for access to micro data for use in specified research projects. Statistics Sweden has developed a system that allows researchers to access micro data stored at Statistics Sweden. The system is called Micro data Online Access (MONA).

Through MONA the user can access the database relevant for the specific project and is able to process data “on-line”. Physically the data is stored at Statistics Sweden. Micro data is visible for the user on the screen and the aggregated results from the processing of the data are sent by e-mail to the user.

The MONA-system is built on communication between a terminal-server and a terminal-client (Server Based Computing or Thin Client Computing). The user gets access, by a secure Internet connection, to a desktop from a Microsoft-client controlled by Statistics Sweden. In the communication between the client and the server only updates of the desktop are transferred. The desktop is customised by the user and the user can choose from applications like STATA, SPSS, SAS, GAUSS, SuperCross, SQL Query Analyser, Excel, Word etc.

The advantages of using MONA are:

- A safe system for Statistics Sweden and for the user
- Micro data are stored only at Statistics Sweden
- Simple to use because of the familiar environment (Microsoft and familiar applications)
- Simple updates of underlying data if needed
- No expensive investments for the user

⁶ For information on the MONA-system, please contact: mona@scb.se.

3.3 The Planning Portal⁷

The Planning Portal aims to provide a web service to support physical planning, infrastructure planning and planning decisions relating to the location of buildings and establishments. It will allow companies, local, regional and national authorities, organisations and the general public to search for, look at and download all geographic information that, in principle, is needed for planning.

A co-ordinated portal designed along these concepts will hopefully lead to a rational and effective use of available resources. The handling times for planning permission from authorities will be reduced. By using the portal, companies searching for suitable locations for their establishments can quickly access information, prevailing regulations and other conditions in different areas. They can also obtain information from earlier studies about ground conditions and archaeology for example. The portal will also provide information about the relevant authority for different activities and help with interpreting the regulatory system.

The project is divided into three subprojects:

- Construction of the Planning Portal ver. 1.0
- Web-service for planning, localisation and processing of permit applications regarding wind power plants
- Web-based GIS applications for planning issues

A wide range of national, regional and local authorities, and companies are taking part in the project. Statistics Sweden participates in the project as a lead partner.

⁷ For more information on the planning portal, please contact: johan.stalnacke@scb.se.