

National Implementation of the GSBPM – The Swedish Experience

0. Abstract

Like many other National Statistical Institutes Statistics Sweden have a history of stove-pipe production where each survey had its own production system and with little coordination between them. To better ensure quality and to make the production more cost-efficient a major initiative was launched to drive the standardisation effort.

Statistics Sweden adopted a version of the GSBPM – adapted to the organisations needs – as the structure for the change and appointed Process Owners within five sub-areas. The Process Owners have a responsibility for the “common toolbox”, including methods, work routines, templates and IT-tools, within their area. This includes identification of needs, driving development, providing support and training and evaluation of functionality and relevance of the standard approaches. Information about the standards as well as how they should be applied in different situations is available through a Process Support System available through the Intranet.

A large number of standards on different levels have been established and they are constantly being improved or added to, via further development. Development is based on the needs identified and are coordinated within so called “Umbrellas” established for the prioritised areas. Major focus at the present has been on Data collection and Dissemination but projects to establish or improve standards are being run within all sub-processes of the GSBPM.

The adoption of standard approaches into the actual survey processes are monitored and comprehensive implementation plans have been developed for prioritised tools.

The paper will describe the approach, the reasons behind it, current status and future plans as well as experiences along the way.

Key words: National implementation, GSBPM, Standardisation, Process Owner, Process Support System

1. Background

Like many other National Statistical Institutes Statistics Sweden have a long history of stove-pipe production where each survey had its own production

system and with little coordination between them. In 2006 a major initiative was launched by the Director General to lay the groundwork for Statistics Sweden to be able to move from this production paradigm to one that was based on common approaches regarding methodology, IT-tools and work procedures, the so-called Lotta-project. The initiative was launched following extensive discussions in the top-management team that had identified a number of problems with the existing approach:

- It was expensive and resource demanding to develop, maintain and document all the survey specific systems/tools and as a consequence it was not done well enough.
- It was difficult to implement new and improved methods and tools since they needed to be tailor made for each survey. Consequently new advances got very slow uptake.
- It was difficult to focus development of competence since needs varied according to each surveys process.
- The many different systems resulted in an unwanted variation in quality that was not possible to describe and control adequately (internally or externally).
- Changes in individual surveys were too often driven by the competence of the expert available at the production unit driven by subject matter needs. Common problems got solved in different ways in different stove pipes.

The Lotta-project was organised in three major sections for:

- Development of common approaches
- Quality assurance and quality control
- Management and competence development

The first two sections are fairly straightforward, but the third section was the key to facilitate the implementation and up-take of what was developed and established in the first two sections and provided a revised organisational structure with some new core functions.

2. Changes made

The core of the change was the definition and introduction of a Business Process Model (BPM) for statistics production that would have actual operational usage and act as the framework to facilitate a higher degree of standardisation.

A new Department was established, The Process Department, centralising most of the methodology and IT staff and including forming a new function; Process Owner connected to the structure of the BPM.

A group of Business Architects was established within the R&D Department to develop and improve the overall production framework and to facilitate long-term development initiatives.

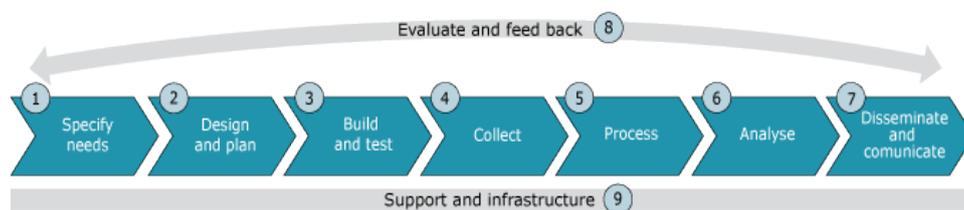
A Project Management Group (PMG), chaired by the Deputy Director General, was formed to assure that development efforts were prioritised from a holistic view point and that local initiatives worked towards the overall approach.

2.1. The Business Process Model

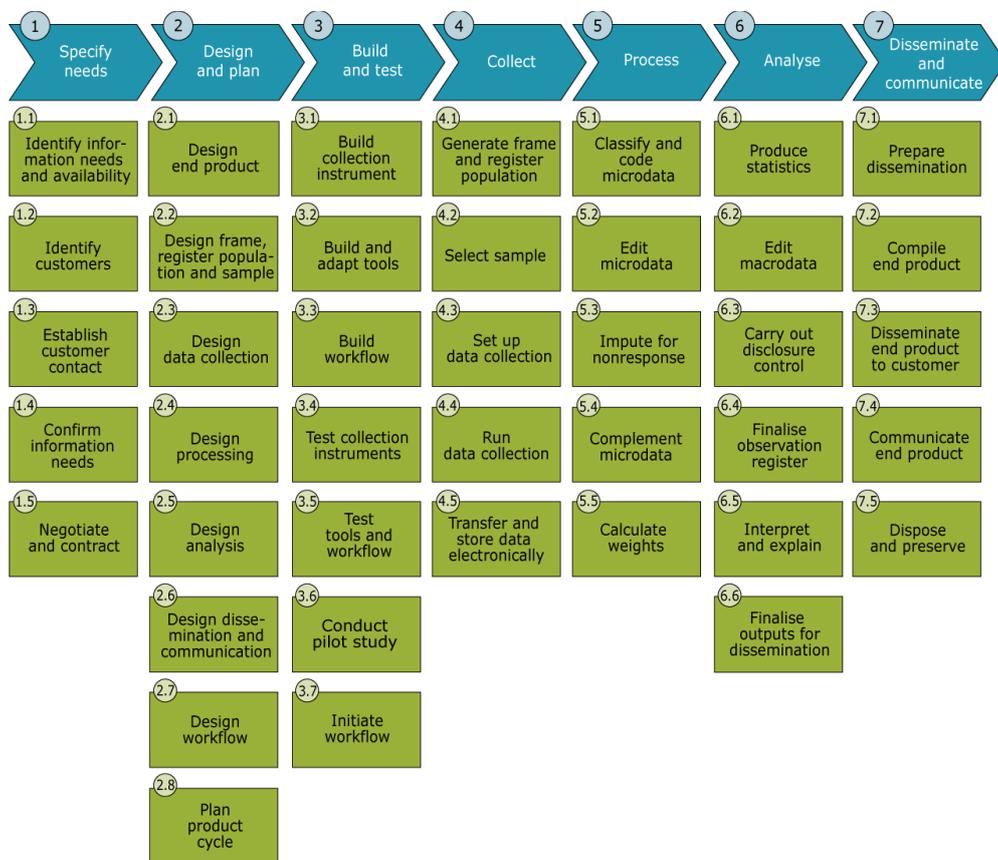
The Business Process Model (BPM) was developed by an internal team, during a fairly short period of time. The team was purposely tasked with delivering a first version within a tight time frame. The aim was to eliminate the clear danger of falling into too much discussion, with no value added, on details of how to define and label the “boxes” of the model. The now existing GSBPM was not established at this time, but the Swedish version was heavily influenced by the BPM developed by Statistics New Zealand, which has also been the starting point for the GSBPM. Hence, they correspond and are compatible for all practical purposes. The experience and advice we got from Statistics New Zealand was also what led us to focus the work in time to get a model in place that the organisation could agree on.

The model has since been slightly revised at one point in time and now has the following structure:

Level 1.



Level 2.



It is worth noticing that although the formal structure of the BPM is limited to the 2-digit level, as seen above, there are many cases where a more detailed structure exists for practical purposes and in order to provide a good overview of the information (see below). It is a conscious decision though to not define the model formally on this level below the 2-digit in level to avoid endless discussions over details that add no real value and to not hinder necessary changes by a too formalised structure. It is also clear that the model on the 2-digit level is applicable and familiar to the majority of the surveys (no matter what type of source it has, such as traditional surveys, registry based statistics et al.) at Statistics Sweden which would not be the case if it was universally defined on a lower level of detail. Below is an example of how the structure of the information is represented under 4.3 – Set up data collection in the Process Support System.

4.3 – Set up data collection

4.3.1 – Load production database

4.3.2 – Prepare interviews

4.3.3 – Prepare web collection

4.3.4 – Prepare printing

4.3.5 – Prepare scanning

4.3.6 – Start up meeting

It is quite clear that on this level of detail the actual process of surveys will start to vary to such a degree that the structure will feel less relevant. The structure will also be less stable over time as production methods change; are added or discontinued.

2.2. The Process Department

The core of implementing the BPM into practical use was to establish a Process Department with the primary objective to be:

“Responsible for ensuring that the appropriate statistical production processes are in use by providing the methods and tools, documentation, support and training for the processes as well as by continuously evaluating and improving them.”

A new role connected to the BPM structure; Process Owner was defined to put the primary objective into practice. One function to each of the processes or process groups listed below was created:

1. Specify needs & Disseminate and communicate
2. Design and plan & Build and test
3. Collect
4. Process & Analyze
5. Evaluate and feedback & Support and infrastructure

Each Process Owner was assigned a Deputy so that there would be two persons appointed for each part of the structure. Hierarchically speaking the Process Owners are on the same level of mandate as Heads of Unit to have the necessary decision making power and to be able to relate to the survey organization on equal footing. Within each area the Process Owner is responsible for:

- The functionality of the statistical methods, tools and approaches (processes)
- Providing support and training
- Evaluating the functionality in relation to the needs of the surveys
- Prioritizing and initiating improvement and development activities
- Handle exceptions

It is important to note that the responsibility of the Process Owner is restricted to the common processes within the agency, and does not include each separate survey. That responsibility lies, as before, with the Survey manager who has to follow the standards or justify an exception.

The Process Owners are themselves highly qualified and experienced within their areas but they also have access to other high-level expertise through teams formed for certain sub-processes, for example sampling, seasonal adjustment, metadata and editing. When appointed, great care was also taken to assure that the Process Owners would have a solid reputation in the organization to give credibility to the role and facilitate its function.

3. The Process Support System

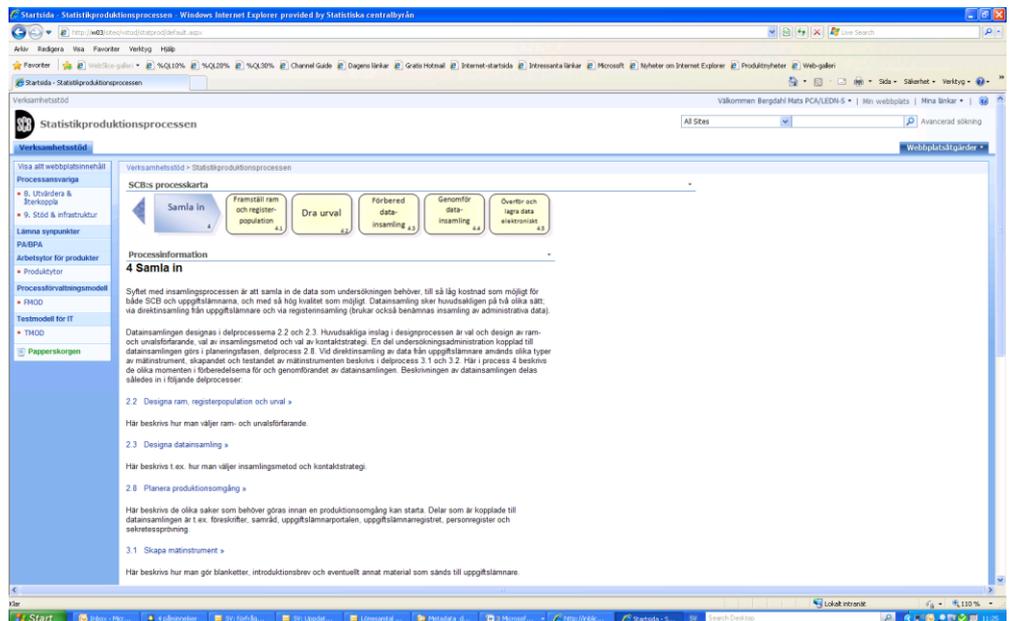
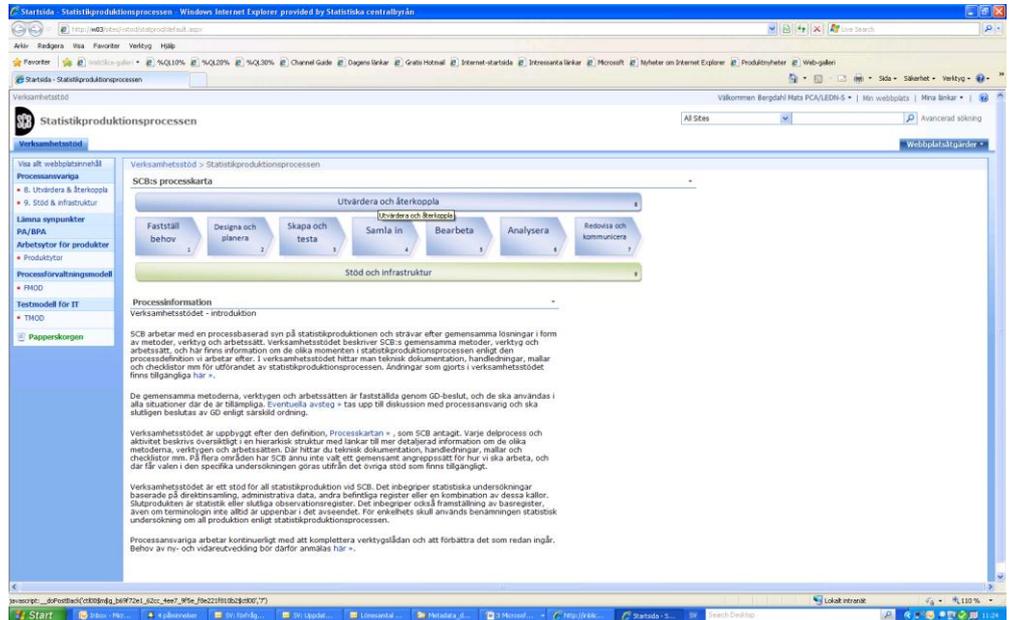
The Process Support System (PSS) is the main source of information about the common processes. It is available for all staff through the intranet and is structured according to the BPM and in a tree-structure, where the level of detail of the information is increased through a system of links. It is a clearly stated objective that the PSS will include all of the common methods, tools and approaches that have been agreed upon, but also that it will not contain information that is not clearly related to these. Alas, it is not a general information bank about statistics production, but instead an information bank about what should be applied within Statistics Sweden.

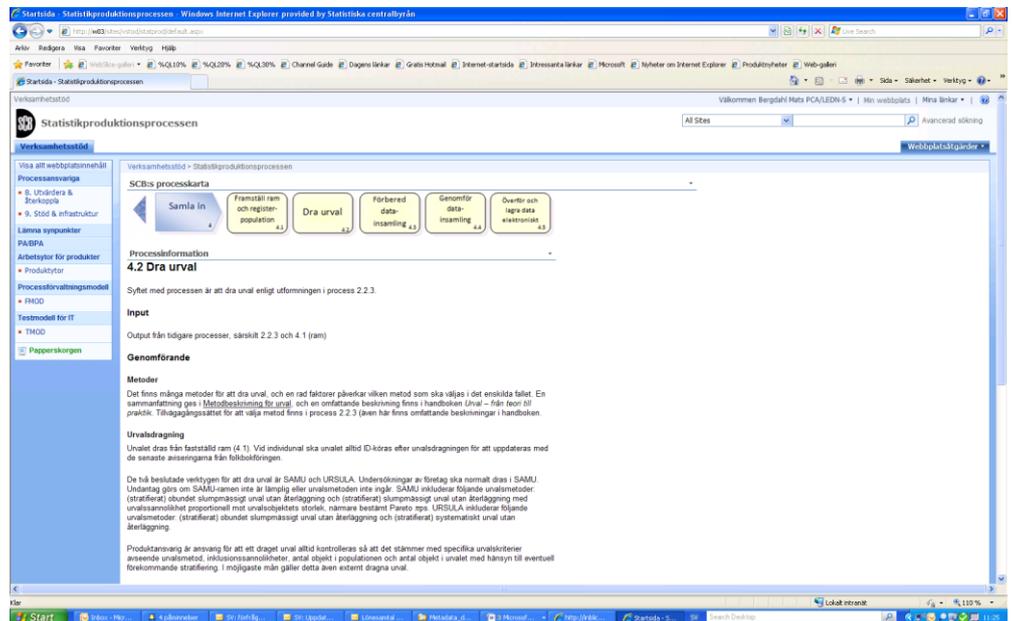
The Process Owners are responsible for the information about their respective parts of the BPM and a coordination role lies with the Process Owner for Infrastructure and support.

Information on changes to the content is available to all Statistics Sweden staff through a log book and there is a template for providing feedback or asking questions as well as for initiating the exception process.

The PSS started out as a “passive” information bank, but extensive development work is ongoing to transform it into an interactive production environment. In this environment the common methods, tools and approaches will be available as services through common interfaces where parameters set for each survey will determine which functionality is applied. The parameters (process data) will be stored as part of documentation and the processes will be possible to monitor through process information as well as through more formal process data. This functionality is now available for selected surveys for data collection and editing and will be expanded to other parts of the BPM where the common tools are advanced enough. To fully work in this environment will be a long-term objective, but over the next few years, major parts of the production process should be implemented.

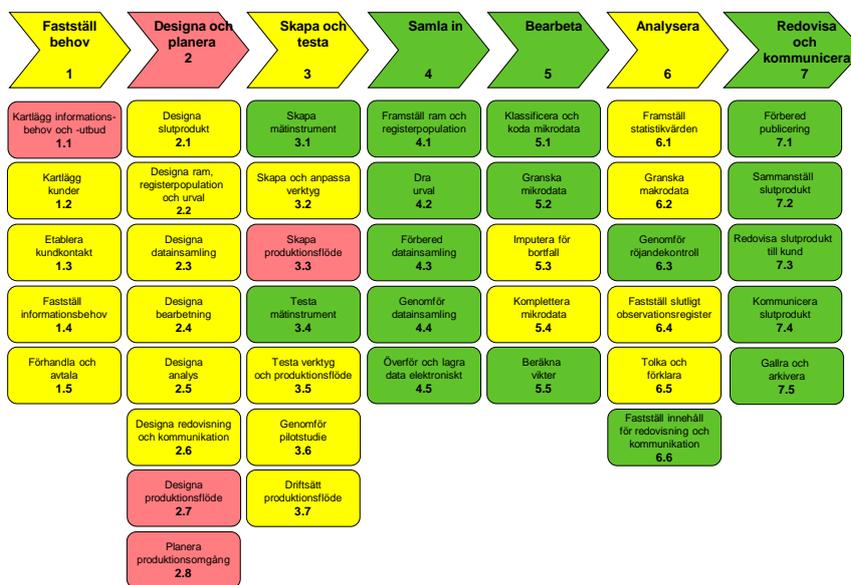
The screen shots below illustrate the hierarchical structure of the PSS within the process of Collect (“Samla in” in Swedish):





4. The common toolbox

The total repository of methods, tools and approaches is often labelled as the “Common toolbox”. At any given moment that common toolbox is the starting point and frame of reference when making a choice how to carry out a (part of) statistical survey. Over time the common toolbox is expanded and its contents will be improved and “tools” that no longer measure up to the needs of the surveys will be discontinued. The toolbox will never be finalised as such, since needs and opportunities evolve over time, but an assessment of the current status in relation to what is known today reveals that there are rather large differences between sub-processes in how well they measure up to the needs of today. The picture below (in Swedish) is a crude (and unofficial) graphical representation of a broad assessment from early 2011 (green = fairly well developed, red = a lot is missing, yellow = in between)



Looking further at to what extent the common toolbox is actually applied in survey production we can deduce that Collect and Disseminate and communicate are sub-processes where the application has come far, whereas Process and Analyse are sub-processes where there is still a lot left to do. The main reason for the difference is that surveys have existing production systems, which often cover the processes of Process and Analyse, and replacing them is a time consuming and resource demanding effort. This is further enhanced as an obstacle because they cannot be replaced in total since vital functionality is still missing from the common toolbox, meaning that current systems need to be “broken up” to add the parts from the common toolbox. The situation is radically different for Collect as well as for Disseminate and communicate, where a majority of the actual work is done in centralised units.

5. Priorities for future development

The central development budget at Statistics Sweden is around 3M Euro annually. This budget is mainly used for projects to enhance the common toolbox, but also for some other needed improvements. During the last couple of years focus has to a large extent been on the three sub-processes Collect, Process and Disseminate and communicate which is also a reason why these areas are better covered than others. For 2011 five strategic areas for development efforts have been defined:

- Data collection and editing
- Efforts to increase response rates and decrease non-response bias

- Disseminate and communicate
- Structured data warehouse and register coordination
- Household and dwelling statistics, including the Census

To some extent these areas will also be relevant for the next few years, but the main focus will shift from individual sub-processes/process areas to programs which facilitate the whole production process. These include Structured data warehouses and register coordination (above) and communication platforms that is built on information models (such as GSIM) and which makes it possible to link the different IT-tools together in an efficient manner. This will also target the current problem of replacing parts of existing production systems with common solutions and making the transition to a more standardised production environment easier.

Another area that will likely be in focus is the design phase, where we at present have very little in the form of support for how choices are made under constraints of cost, time and in relation to other quality components.

6. Experiences so far

There are a number of important experiences made and lessons learned from the work that has been done so far to transform the production environment at Statistics Sweden. Some highlights are:

Commitment from top management is essential and is needed for a long-term perspective. For many statistical organisations moving in this direction is somewhat of a “controlled revolution” requiring changes to the mindset of the staff. Such changes cannot happen without continued support, priority of resources and input from top management and down.

Middle-management is also a key group; they are responsible for survey operations and are in contact with the survey staff on a daily basis and thus in a unique position to give information and guidance about the approach. Although changes like this are always supported by centralised information and communication, nothing can replace the daily contacts. In light of this a lot of care needs to be given to prepare the middle-management so they can take this responsibility and it is clear that we did not do enough in this area, clearly slowing down the adoption of the approach.

Changes of this magnitude take time. Both to develop the approaches and the tools to be applied in the production process, but to an even larger extent to change how the staff look at the process of their survey and actually getting the common toolbox into practice, replacing the existing legacy systems.

It is important not to overemphasize the BPM as such, but instead to focus on the activities to be supported. A model is just a representation of reality that will vary from organisation to organisation as well as from survey to survey. Finding a representation that captures the majority of the activity as

well as using terminology that is familiar is essential to acceptance and buy-in. The most important aspect is to establish a model that the organisation can rely on to be stable and that will be the common frame of reference, rather than getting stuck searching for the “perfect fit”.

It is important to have an extensive and well developed toolbox, but it is just as important to have a holistic framework where to apply the different tools. The BPM provides such a framework, but to facilitate practical usage, a business architecture building on information models and support for its implementation is needed.

Some form of support organisation needs to be in place that represents the organisational view of the BPM and which takes ownership of the common toolbox, its development and maintenance. Statistics Sweden established the role of Process owner, and although there has been some discussion of the responsibilities in relation to other roles/functions, it is widely considered a key part of the success of the approach.

7. Way forward

Statistics Sweden is committed to standardise its production environment and will continue to expand and improve its common toolbox based on the needs of the surveys we carry out. In order to reap the benefits envisioned at the start of the change process, focus will change towards a more holistic view of the production process based on the BPM as a framework. How information will flow and be transformed through the different stages of the BPM will be the main focus for development the coming years. This will place great demand on the data to be well defined and structured and for terminology to be standardised as well.

The BPM is likely to be stable over time but minor revisions are likely to take place at some intervals. To what extent the BPM will be fully harmonised with the GSBPM remains to be seen, but for the sake of international comparability and cooperation it is a possibility we will be looking in to.