Generic Statistical Business Process Model (GSBPM)

How this model could contribute to transparency and reproducibility

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Generic Statistical Business Process Model (GSBPM)

Is a reference model that describes and defines the set of business processes needed to produce official statistics. Provides a standard framework and harmonized terminology to help statistical organizations to modernize their statistical production processes, as well as to share methods and components.

It is intended to provide a tool to help addressing the following needs:

• Defining and describing statistical processes in a coherent way
• Comparing and benchmarking processes within and between organizations
• Improving decisions on production systems and organization of resources
GSBPM Shares an Environment With Other Modernization Standards

CSPA Service

Business Architecture

Information Architecture

Application Architecture

Technology Architecture

GAMSO

DDI

SDMX
## Modernization Standards and Their Main Object

<table>
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<tr>
<th>Standard</th>
<th>Object</th>
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<tr>
<td>GAMSO</td>
<td>Statistical Activities in a NSO</td>
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<td>Generic Activity Model for Statistical Organisations</td>
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<td>GSBPM</td>
<td>Statistical Processes</td>
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<td>Generic Statistical Business Process Model</td>
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<td>GSIM</td>
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<td>Generic Statistical Information Model</td>
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<td>CSPA</td>
<td>Industrial Architecture</td>
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<td>Common Statistical Production Architecture</td>
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<td>DDI</td>
<td>Microdata and process metadata</td>
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<td>Data Documentation Initiative</td>
<td>Internal</td>
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<td>SDMX</td>
<td>Aggregated data and flows metadata Exchange</td>
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<td>Statistical Data and Metadata Exchange</td>
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</tbody>
</table>
Benefits of using GSBPM

• Standardization of terminology
• Structure for organizing documentation, promoting standardization and identification of good practices
• Instrument to share knowledge, methods and tools (first step towards common solutions for similar processes)
• Facilitates use of common tools / methods (efficiency savings)
• Standard framework for benchmarking
• Tool for managing process quality
# GSBPM (Version 5.0, December 2013)

## Quality Management / Metadata Management

<table>
<thead>
<tr>
<th>Specify Needs</th>
<th>Design</th>
<th>Build</th>
<th>Collect</th>
<th>Process</th>
<th>Analyse</th>
<th>Disseminate</th>
<th>Evaluate</th>
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<tbody>
<tr>
<td>1.1 Identify needs</td>
<td>2.1 Design outputs</td>
<td>3.1 Build collection instrument</td>
<td>4.1 Create frame &amp; select sample</td>
<td>5.1 Integrate data</td>
<td>6.1 Prepare draft outputs</td>
<td>7.1 Update output systems</td>
<td>8.1 Gather evaluation inputs</td>
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<tr>
<td>1.2 Consult &amp; confirm needs</td>
<td>2.2 Design variable descriptions</td>
<td>3.2 Build or enhance process components</td>
<td>4.2 Set up collection</td>
<td>5.2 Classify &amp; code</td>
<td>6.2 Validate outputs</td>
<td>7.2 Produce dissemination products</td>
<td>8.2 Conduct evaluation</td>
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<tr>
<td>1.3 Establish output objectives</td>
<td>2.3 Design collection</td>
<td>3.3 Build or enhance dissemination components</td>
<td>4.3 Run collection</td>
<td>5.3 Review &amp; validate</td>
<td>6.3 Interpret &amp; explain outputs</td>
<td>7.3 Manage release of dissemination products</td>
<td>8.3 Agree an action plan</td>
</tr>
<tr>
<td>1.4 Identify concepts</td>
<td>2.4 Design frame &amp; sample</td>
<td>3.4 Configure workflows</td>
<td>4.4 Finalise collection</td>
<td>5.4 Edit &amp; impute</td>
<td>6.4 Apply disclosure control</td>
<td>7.4 Promote dissemination products</td>
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<tr>
<td>1.5 Check data availability</td>
<td>2.5 Design processing &amp; analysis</td>
<td>3.5 Test production system</td>
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<tr>
<td>1.6 Prepare business case</td>
<td>2.6 Design production systems &amp; workflow</td>
<td>3.6 Test statistical business process</td>
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<td>3.7 Finalise production system</td>
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<td>5.8 Finalise data files</td>
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</tbody>
</table>

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Structure

Level 0, Statistical Business Process

Level 1, Phases (8)

Level 2, Sub-Processes (44)
Over-Arching Processes

• With Statistical Component:
  – Quality Management
  – Metadata Management
  – Data Management
  – Process Data Management
  – Knowledge Management
  – Statistical Framework Management
  – Statistical Program Management
  – Customer Management

• More General:
  – Human Resource Management
  – Financial Management
  – Project Management
  – Legal Framework Management
  – Organisational Framework Management
  – Strategic Planning

Closely Related to the Model

GSBPM

Generic Activity Model for Statistical Organisations
GAMSO 1.1
**Specify needs.** Identifies what the statistical activity is going to produce and the data required to produce the expected output to satisfy the users' requirements.

**Design.** Describes the development and design of the statistical outputs, methodology, and later phases of the GSBPM for the statistical activity.

**Build.** Concerns the construction and deployment of the ready-to-use production system, based on results from the Design phase.

**Collect.** Is about the selection of units from which to obtain data and the collection or extraction of that data and related metadata.

**Process.** Input data are transformed to produce the target outputs.

**Analyse.** Data are carefully examined before dissemination to users.

**Disseminate.** Is about making statistical products available to customers by assembling and releasing a range of static and dynamic products through various channels.

**Evaluate.** Concerns the review and assessment of the experiences gained from the specific instance of a statistical business process.
Sub-Processes

- Are the components of the phases representing a set of related activities to develop an specific task
- Is not a linear model
  - Sub-processes do not have to be followed in a strict order
  - The user can configure different paths to represent an specific instance of the process
  - Sub-processes can be skipped, repeated, revisited...

1. Relevance, impartiality and equal access
2. Professional standards and Ethics
3. Accountability and transparency
4. Prevention of misuse
5. Sources of official statistics
6. Confidentiality
7. Legislation
8. National coordination
9. Use of international standards
10. International cooperation

<table>
<thead>
<tr>
<th>Fundamental Principles</th>
<th>Specify Needs</th>
<th>Design</th>
<th>Build</th>
<th>Collect</th>
<th>Process</th>
<th>Analyse</th>
<th>Disseminate</th>
<th>Evaluate</th>
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Key: X = Strong mapping
     x = Weaker mapping
Benefits for Transparency and Reproducibility

- Provides a way to diagram/trace the way in which an entity produces statistics
- It is possible to compare processes made by different entities
- Standardization of production processes for certain kinds of studies can be described
- In combination with other standards like GSIM, DDI and SDMX; statistical information (and their quality) can be examined and understood in a better way
- Provides tools to improve the statistical production process (and its outputs)
Some FAQs about GSBPM

• Can only be used to describe statistical process based on surveys?
  – No, GSBPM can be used to describe processes based on censuses, surveys, statistical/business registers and also emergent sources of data (like Big Data).

• Is it just a theoretical model?
  – No, it’s a practical model that is being applied by many National Statistical Offices from different continents (not only Europe) in different ways.

• An entity must have a reorganization of its areas in order to use GSBPM?
  – No, as you have seen you can use GSBPM in other several ways which don’t imply a reorganization: documentation, guide to develop modular systems, benchmarking of processes, etc.
Questions?