# VI._Over-arching processes

105. The GSBPM also recognises several over-arching processes that apply throughout the production phases, and across statistical business processes. Some of these over-arching processes are listed in paragraph 13 and 14. The processes of quality management and metadata management are further elaborated in this Section.

**Quality Management**

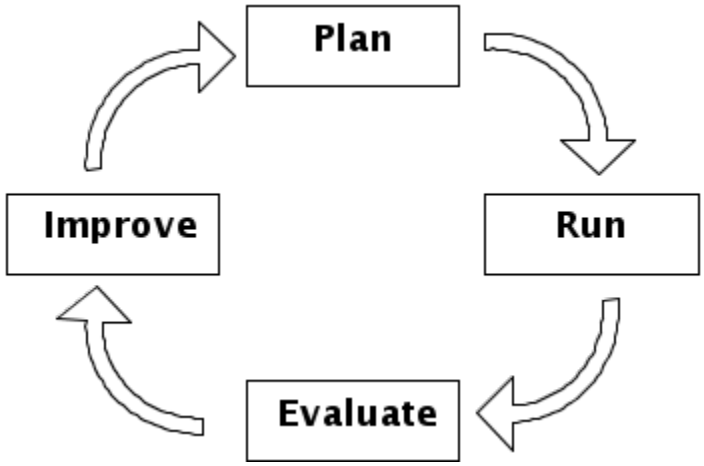
106. Quality concerns organisations, processes and products. In the present framework, quality management over-arching process refers mainly to product and process quality.

107. The main goal of quality management within the statistical business process is to understand and manage the quality of the statistical products. There is general agreement among statistical organisations that quality should be defined according to the ISO 9000-2005 standard: "The degree to which a set of inherent characteristics fulfils requirements" [1] . Thus, product quality is a complex and multi-faceted concept, usually defined in terms of several quality dimensions. The dimensions of quality that are considered most important depend on user perspectives, needs and priorities, which vary between processes and across groups of users.

108. In order to improve the product quality, quality management should be present throughout the statistical business process model. It is closely linked to Phase 8 (Evaluate), which has the specific role of post-evaluating individual instances of a statistical business process. However, quality management has both a deeper and broader scope. As well as evaluating iterations of a process, it is also necessary to evaluate separate phases and sub-processes, ideally each time they are applied, but at least according to an agreed schedule. Metadata generated by the different sub-processes themselves are also of interest as an input for process quality management. These evaluations can apply within a specific process, or across several processes that use common components.

109. In addition, a fundamental role in quality management is played by the set of quality control actions that should be implemented within the sub-processes to prevent and monitor errors. The strategy could be reported in a quality assurance plan.

110. Within an organisation, quality management will usually refer to a specific quality framework, and may therefore take different forms and deliver different results within different organisations. The current multiplicity of quality frameworks enhances the importance of the benchmarking and peer review approaches to evaluation, and whilst these approaches are unlikely to be feasible for every iteration of every part of every statistical business process, they should be used in a systematic way according to a pre-determined schedule that allows for the review of all main parts of the process within a specified time period [2] .
111. Broadening the field of application of the quality management over-arching process, evaluation of groups of statistical business processes can also be considered, in order to identify potential duplication or gaps.




112. All evaluations result in feedback, which should be used to improve the relevant process, phase or sub-process, creating a quality loop.

113. Examples of quality management activities include:

- Setting and maintaining of the quality framework;
- Setting of global quality criteria;
- Setting process quality targets and monitoring compliance;
- Seeking and analysing user feedback;
- Reviewing operation and documenting lessons learned;
- Examining process metadata and quality indicators;
- Internal or external auditing on statistical processes.

114. Quality management also involves institutional and organisational factors. Such factors are included in other GSBPM over-arching processes (e.g. Human resources management, Statistical programme management) although they can have an impact on quality.

**Metadata Management**

115. Good metadata management is essential for the efficient operation of statistical business processes. Metadata are present in every phase, either created or carried forward from a previous phase. In the context of this model, the emphasis of the over-arching process of metadata management is on the creation, use and archiving of statistical metadata, though metadata on the different sub-processes themselves are also of interest, including as an input for quality management. The key challenge is to ensure that these metadata are captured as early as possible, and stored and transferred from phase to phase alongside the data they refer to. Metadata management strategy and systems are therefore vital to the operation of this model, and these can be facilitated by the GSIM.

116. The GSIM is a reference framework of information objects, which enables generic descriptions of the definition, management and use of data and metadata throughout the statistical production process. The GSIM supports a consistent approach to metadata, facilitating the primary role for metadata envisaged in Part A of the Common Metadata Framework [3] "Statistical Metadata in a Corporate Context", that is, that metadata should uniquely and formally define the content and links between objects and processes in the statistical information system.

117. Part A of the Common Metadata Framework also identifies the following sixteen core principles for metadata management, all of which are intended to be covered in the over-arching Metadata Management process, and taken into the consideration when designing and implementing a statistical metadata system. The principles are presented in four groups:

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|---|---|
| **Metadata handling** | 1. a. ***Statistical Business Process Model***: Manage metadata with a focus on the overall statistical business process model.<br>b. ***Active not passive***: Make metadata active to the greatest extent possible. Active metadata are metadata that drive other processes and actions. Treating metadata this way will ensure they are accurate and up-to-date.<br>c. ***Reuse***: Reuse metadata where possible for statistical integration as well as efficiency reasons<br>d. ***Versions***: Preserve history (old versions) of metadata. |
| **Metadata Authority** | 1. ***Registration***: Ensure the registration process (workflow) associated with each metadata element is well documented so there is clear identification of ownership, approval status, date of operation, etc.<br>2. ***Single source***: Ensure that a single, authoritative source ('registration authority') for each metadata element exists.<br>3. ***One entry/update***: Minimise errors by entering once and updating in one place.<br>4. ***Standards variations***: Ensure that variations from standards are tightly managed/approved, documented and visible. |
| **Relationship to Statistical Cycle / Processes** | 1. a. ***Integrity***: Make metadata-related work an integral part of business processes across the organisation.<br>b. ***Matching metadata***: Ensure that metadata presented to the end-users match the metadata that drove the business process or were created during the process.<br>c. ***Describe flow***: Describe metadata flow with the statistical and business processes (alongside the data flow and business logic).<br>d. ***Capture at source***: Capture metadata at their source, preferably automatically as a by-product of other processes.<br>e. ***Exchange and use***: Exchange metadata and use them for informing both computer based processes and human interpretation. The infrastructure for exchange of data and associated metadata should be based on loosely coupled components, with a choice of standard exchange languages, such as XML. |
| **Users** | 1. a. i. ***Identify users***: Ensure that users are clearly identified for all metadata processes, and that all metadata capturing will create value for them.<br>ii. ***Different formats***: The diversity of metadata is recognised and there are different views corresponding to the different uses of the data. Different users require different levels of detail. Metadata appear in different formats depending on the processes and goals for which they are produced and used.<br>iii. ***Availability***: Ensure that metadata are readily available and useable in the context of the users' information needs (whether an internal or external user). |

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1. ISO 9000:2005, Quality management systems – Fundamentals and vocabulary. International Organization for Standardization
2. A suitable global framework is the National Quality Assurance Framework developed by a global expert group under the United Nations Statistical Commission. See: http://unstats.un.org/unsd/dnss/QualityNQAF/nqaf.aspx
3. See: https://statswiki.unece.org/display/hlgbas/Part+A+-+Statistical+Metadata+in+a+Corporate+Context