# Assessing Your Modernisation Maturity

Under the High-level Group project on Implementing ModernStats Standards, a Modernisation Maturity Model (MMM) has been developed. The maturity self-assessment would ideally be performed by a cross-cutting group involving members of the Business, Information, Methods, Applications and Technology functions within the statistical organisation.

There are multiple aspects of Maturity in the context of Modernisation, and as such the model that has been developed has a number of distinct ***dimensions***. Within each dimension, different organisations may have different ***levels*** of maturity.

These ***dimensions*** and ***levels*** are described in the tables below in general terms. However, to be more specific, we have formulated a set of self-assessment criteria that is specific to each ***dimension*** x ***level*** combination, as well as being specific to each of the following *HLG-MOS standards*:

* [GAMSO](http://www1.unece.org/stat/platform/display/GAMSO/Generic+Activity+Model+for+Statistical+Organizations)
* [GSBPM](http://www1.unece.org/stat/platform/display/GSBPM/Generic+Statistical+Business+Process+Model)
* [GSIM](http://www1.unece.org/stat/platform/display/gsim/Generic+Statistical+Information+Model)
* [CSPA](http://www1.unece.org/stat/platform/display/CSPA/Common+Statistical+Production+Architecture)

Those undertaking a self-assessment are encouraged to assess their maturity in this way at the ***current time***, as well as the ***target level*** of maturity that they are seeking to achieve in 5 years’ time. Additionally, they are invited to list the first major 1-3 steps they expect their organisation would take to move its maturity level toward the target for each dimension. (These could be steps the organisation would undertake on its own or these might be steps based on enablers from HLG.)

Organisation:

For each **Tester** please fill out

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Main area(s) of expertise (Business, Methods, Information, Applications and/or Technology):

**Information, applications, technology**

HLG-MOS standard(s) **tested** (**GAMSO**, GSBPM, **GSIM** and/or CSPA)

## Description of Maturity Levels

| **Number** | **Level Name** | **Level Description** |
| --- | --- | --- |
| 1 | Initial implementation | A few individuals are becoming interested in the potential value of the standard.  The organisation as a whole is unaware of the standard. |
| 2 | Pre-implementation | Use of the standard is basic and limited to a few individuals.  Parts of the organisation are becoming interested in the potential value of the standard. |
| 3 | Early implementation | Use of the standard is spreading, but it is used in an inconsistent manner by individuals and single business units.  A corporate-wide programme/strategy for use of the standard is in being prepared. |
| 4 | Corporate implementation | A corporate-wide programme/strategy for use of the standard exists.  There is a widespread awareness of the standard and it is used in a consistent way across the organisation. |
| 5 | Mature implementation | The standard is perceived as an important part of business operations/management, delivering value across the organisation.  The standard is well understood, integrated into business processes & practices and used in a consistent manner across the organisation. |

**Questions for Testers on the Level names and descriptions:**

**Are the descriptions easy to understand?**

yes

**Are the Levels sufficiently distinct?**

Possible complication with **3 Early implementation** : could have 1st condition without the 2nd condition.

## Description of Dimensions

**Dimensions** (Architecture is implicit)

|  |  |  |
| --- | --- | --- |
| **Number** | **Name** | **Description** |
| 1 | Business | This dimension focuses on the business activity domain i.e. the organisation's core business practices and policies. |
| 2 | Methods | This dimension focuses on the management of methods i.e. how methods are designed, structured, implemented and executed.  It includes statistical methodology, quality management, IT methods, process methods e.g. data collection methods and any other methods needed to support the business. |
| 3 | Information | This dimension focuses on how information is structured and integrated, how information is modelled, the method of access to data, abstraction of the data access from the functional aspects, data characteristics, data transformation capabilities, service and process definitions, handling of identifiers and the information model. |
| 4 | Applications | This dimension focuses on the structure and interaction of applications[[1]](#footnote-1) to provide business functionality using the information/data assets needed to deliver this functionality. |
| 5 | Technology | This dimension focuses on the logical software and hardware capabilities that are required to support the deployment of business, information, and application services. This includes IT infrastructure, middleware, networks, etc. |

**Questions for Testers on the Dimension names and descriptions:**

**Are the descriptions easy to understand?**

1. Business: Struggling with concept of ‘process’ 🡨🡪 ‘practice’, ‘process methods’, service & ‘process’ definition. Should one interpret practices are at a higher level than processes?
2. Methods: Not sure if methods includes too many components. Are CATI/CAPI examples of data collection methods? What is an example of IT methods?
3. Information: Service and process definitions not clear
4. Why ‘logical’ software and hardware capabilities? Or is it ‘logical capabilities’ related to SW & HW e.g. data storage?

**Are the Dimensions sufficiently distinct?**

See 1. above

## GAMSO Self-Assessment Criteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Levels**  **Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Business | A few individuals are becoming interested in the potential business value of using GAMSO.  The organisation as a whole is unaware of GAMSO | Use of GAMSO is basic and limited to a few individuals.  Parts of the organisation are becoming interested in the potential business value of GAMSO | Use of GAMSO is spreading, but practise varies between individuals and across business units.  Some individuals and business units are referring to the overarching phases in GSBPM. | A corporate-wide programme/strategy for use of GAMSO is in place.  There is a widespread awareness of GAMSO and a consistent approach to its use across the organisation | GAMSO is perceived as an important part of business operations/management, delivering business value.  GAMSO is well understood, integrated into business processes and practices and used in a consistent manner across the organisation. |
| Methods | Methods are developed on an as needed basis for a particular activity area / product/ process.  A few individuals are becoming interested in the potential value of planning, developing, monitoring and supporting methods for more than one activity area/ product/ process  The organisation as a whole is unaware of this potential.  There is little corporate support for managing methods | Individuals are developing methods to be used in several activity areas/ products/ processes  Some business units are becoming interested in the potential value of managing methods as corporate capability elements.  There is some corporate support for managing methods. | Methods (e.g. statistical methodology and quality) are being developed and used in more than one activity area/product/process, but consistent implementation is lacking  There is corporate support for managing methods | There is a corporate strategy for managing Methods (e.g. statistical methodology and quality, IT methods, process methods e.g. data collection methods and any other methods) as corporate capability elements | Management of methods  is an integral part of the corporate policy, and is performed efficiently and effectively, regularly assessed and improved |
| Information | Information is created on an "as needed" basis for a particular activity area / product/ process  A few individuals are becoming interested in the potential value of planning, developing. monitoring and supporting information for more than one activity area, product or process.  The organisation as a whole is unaware of this potential | Individuals are developing information resources to be shared and used in several activity areas/products /phases.  Some business units are becoming interested in the potential value of managing product/process information as corporate capability elements.  There is some corporate support for managing product/process information. | Information resources are being developed and used   in more than one product/ process/ activity, but practice varies across the   organisation.  There is corporate support for standardised management of information across activity areas/ products /phases. | There is a corporate strategy for managing information as corporate capability elements.  GSIM is used to describe and manage information objects in statistical processes. | Management of information is performed efficiently and effectively, regularly assessed and improved. |
| **Levels Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Applications | A few individuals are becoming interested in the potential value of planning, developing, monitoring and supporting applications for more than one activity area, product or process.  There is little corporate support for managing applications | Some business units are becoming interested in the potential value of managing applications as corporate capability elements.  There is some corporate support for managing applications | Common and shared applications are being developed and used in more than one product/ process/ activity, but in an inconsistent manner across the organisation.  There is corporate support for the management of applications. | There is a corporate strategy for  managing applications as corporate capability elements | Management of applications is performed  efficiently and effectively, regularly assessed and improved according to the corporate strategy |
| Technology | A few individuals are becoming interested in the potential value of managing technology as a corporate capability element.  There is little corporate support for managing technology | Some business units are becoming interested in the potential value of managing technology as a corporate capability element.  There is some corporate support for managing technology | Technology is being used in more than one product/ process/ activity, but practise varies across the organisation.  There is corporate support for the management of technology | There is a corporate strategy for managing technology as a corporate capability element. | Technology, as a corporate capability element, is seen as an important part of business operations/ management, delivering value across the organisation.  Technology, as a corporate capability element, is well integrated into business processes & practices |

## GAMSO Maturity Assessment

The current version of GAMSO is version 1.0.

Version Assessed: **1.0**

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| --- | --- | --- | --- |
| **Dimension** | **Current Maturity** | **Target Maturity** | **Key Steps/**  **Requirements** |
| Business | 2. Pre-Implmt | 4. Corp-Implmt | Awareness, communication, and training.  Alignment with GoC Project Investment, Activity and Capability models.  Alignment with StatCan Project Investment, Planning and Management.  Performance Measurement (MIS), for monitoring and KPIs. |
| Methods | 2. Pre-Implmt | 4. Corp-Implmt | Awareness, communication, and training.  Alignment with NSO priorities and progress e.g. CSPA.  Alignment with GoC Activity and Capability models.  Performance Measurement (MIS),  Governance (through corporate methods and standards committee). |
| Information | 3. Early | 5. Mature | Awareness, communication, and training.  Alignment with GoC Activity and Capability models.  IT Governance (and MIS).  Alignment with NSO international info exchange standards (e.g. DDI, SDMX).  Alignment with GoC info exchange standards. |
| Applications | 3. Early | 5. Mature | Awareness, communication, and training.  Alignment with GoC Activity and Capability models.  IT Governance (and MIS).  Alignment with GoC corporate services tools (HR, Fin). Alignment with CSPA |
| Technology | 3. Early | 5. Mature | Awareness, communication, and training.  Alignment with GoC Activity and Capability models.  IT Governance (and MIS).  GoC standards, prescribed tools, alignment/use of HLG tools |

**For Testers**

**Were there any self-assessment criteria that were particularly difficult to understand?** No.

**If yes, please provide the Dimension and Level for those self-assessment criteria:**

**Were the Levels sufficiently distinct per Dimension?** No.

**If not, please provide the Dimension(s) and Level(s) where you experienced difficulties**

Corporate implementation

There is a corporate strategy for managing applications ***but not*** as corporate capability elements

There is a corporate strategy for managing technology ***but not*** as a corporate capability element.

## GSIM Self-Assessment Criteria

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| --- | --- | --- | --- | --- | --- |
| **Levels**  **Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate implementation** | **Mature**  **implementation** |
| Business | Business drivers for the implementation of GSIM are being identified and discussed by experts and subject-matter people.  Management are largely unaware of or uninterested in GSIM. | Organisation is becoming aware of GSIM and recognizing its potential usefulness. The organisation might be involved in international development projects using GSIM as a conceptual model. Still limited definition and documentation of the organisation’s business drivers and processes in which GSIM will be involved. Strong need for guidance from other organisations implementing GSIM. | GSIM is used to describe some information objects mainly in the description of business processes in individual development projects.  Some serious efforts are being made to develop skills to learn GSIM, including its role to help to describe GSBPM sub-processes by defining the information objects that flow between them, that are created in them, and that are used by them to produce official statistics.  Corporate-wide strategy for the use of GSIM is being prepared, | GSIM is used by the organisation to describe information objects in its own business processes and to compare them inside the organisation as well as with other organisations. GSIM has become a common every-day language for requirements analysts, architects and system developers.  Corporate-wide strategy to use GSIM  exists. | GSIM has been fully adopted by the organisation to describe information used in its business processes and their improvements. |
| Methods | A few individuals are becoming interested in the potential value of using GSIM to support the design, specification and implementation of harmonized methods. | A few individuals are using GSIM to support the design, specification and implementation of harmonized methods.  Some business units are becoming interested in the potential value of using GSIM to support the design, specification and implementation of harmonized methods. | Individuals and business units are using GSIM to support the design, specification and implementation of harmonized methods, but practise varies. | There is a widespread awareness of the use of GSIM to support the design, specification and implementation of harmonized methods and this is used in a consistent way across the organisation.  A corporate wide strategy to use GSIM to support the design, specification and implementation of harmonized methods exists | The use of GSIM to support the design, specification and implementation of harmonized methods is an important part of methods management and delivers value |
| **Levels Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Information | Some information experts are aware of GSIM and interested in its use related to organizing data and metadata. | Several information experts know the model. GSIM has been tried out occasionally in specific areas which are often related to international cooperation efforts. | GSIM is recognized as a conceptual model for sharing ideas and determining common concepts inside organisation. Some case-specific models are introduced. The GSIM information objects might be used a bit differently in different parts of the organisation. | Organisation has officially adopted GSIM to describe its information assets.  The information architecture of the organisation is described in terms of GSIM information objects. There exist common repositories of instances of GSIM information objects that can be reused in the whole organisation. | GSIM-based information architecture is a reality and implemented throughout the organisation consistently. Optimized GSIM-based information management is a reality.  There exists a catalogue of GSIM information objects, e.g. unit type, that has been agreed on at the international level and the organisation is using this catalogue. |
| Applications | Some experts are aware of GSIM and also interested in using it. | Some physical datamodels or CSPA services are created and tested using GSIM as the conceptual model in planning phase. | GSIM-based physical datamodels are implemented in separate applications or some CSPA services are described in terms of GSIM information objects. | GSIM is used to describe at the conceptual level all applications related to the statistical processes that are developed by the organisation.  The organisation has an internal CSPA Service Catalogue including coherent Statistical Service Descriptions describing input and output objects of the services as GSIM information objects. | There is a whole platform of CSPA-compliant applications for all domains described in terms of GSIM information objects. Organisation has adopted GSIM as part of the set of standards to describe its applications. |

## GSIM Maturity Assessment

The current version of GSIM is version 1.1.

Version Assessed: **1.1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimension** | **Current Maturity** | **Target Maturity** | **Key Steps/**  **Requirements** |
| Business | 3. Early | 4. Corp-Implmt | GSIM & LIM development.  Awareness, communication, and training. |
| Methods | 2. Pre-Implmt | 4. Corp-Implmt | Increased method governance & harmonization - harmonization of methods needs to be supported at a corporate level.  Increased method development governance. |
| Information | 3. Early  (close to 4.) | 5. Mature | Information governance.  Alignment with GoC Information objects. |
| Applications | 3. Early | 4. Corp-Implmt | GSIM & LIM development.  CSPA development.  Awareness, communication, and training.  Increased app development governance. |

**For Testers**

**Were there any self-assessment criteria that were particularly difficult to understand? ?** No.

**If yes, please provide the Dimension and Level for those self-assessment criteria:**

**Were the Levels sufficiently distinct per Dimension?** No.

**If not, please provide the Dimension(s) and Level(s) where you experienced difficulties**

Information: Organisation has officially adopted GSIM to describe its information assets. BUT *only some* of the information architecture of the organisation is described in terms of GSIM information objects.

There exist common repositories of instances of *only some of* GSIM information objects that can be reused in the whole organisation.

**Do you think we should have had a Technology Dimension for GSIM?**

Yes – related to DDI & SDMX and SOA Common Information Exchange Models etc…

**FINALLY (across all standards)**

**Do you have any general feedback/suggestions to help us make the filling out of this maturity assessment easier?**

## Definitions

**Capability:**

An ability that an organisation, person, or system possesses. Capabilities are typically expressed in general and high-level terms and typically require a combination of organisation, people, processes, and technology to achieve. Source The Open Group Architecture Framework (TOGAF)  
**Capability element:**

Capabilities provide the agency with the ability to undertake a specific activity. A capability is only achieved through the integration of all relevant capability elements (e.g. methods, processes, standards and frameworks, IT systems and people skills).

**Corporate capability element:**

A corporate capability element is a capability element that is managed at the corporate level for use across the entire organisation.

## Abbreviations

* IT – Information Technology
* CSPA – Common Statistical Production Architecture
* GAMSO – Generic Activity Model for Statistical Organisations
* GSBPM – Generic Statistical Business Process Model
* GSIM – Generic Statistical Information Model
* HLG-MOS – High-level Group for the Modernisation of Official Statistics

1. Applications are software components or programs which provide specific functionality for end users. Web browsers, email programs, and word processors are examples of generic desktop applications, but the term 'applications' also encompasses enterprise-level components providing functionality specific to the business. [↑](#footnote-ref-1)