National implementation of the GSBPM –The Egyptian Experience

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Abstract

The history of the Central Agency for Public Mobilization and Statistics in Egypt (CAPMAS) shows that each statistical product has its own production system. Standardized and clear metadata that explains each production phase and the work flow was not applied. A huge amount of important information about statistical products needed to produce modernized statistics was lost. That entailed to rearrange the metadata infrastructure to produce statistics according to fundamental principles of official statistics. Generic Statistical Business Process Model (GSBPM) has applied as an agreed and preferred reference model that has a flexible structure to maintain and document statistical data produced in a standardized way. The paper aims to demonstrate the experience of implementing GSBPM in CAPMAS through displaying the work effort to shift and establish that project with reference to obstacles that encountered implementation and solutions to overcome it, benefits achieved as a result of implementation, future plan, and conclusion.

Keywords: Metadata; official statistics; standardization.

1.Introduction

Despite the role of CAPMAS in collecting, analyzing, and disseminating data to meet the requirements of national or international data users, there were isolated islands of departments that have experts responsible for producing census, household survey and administrative record. Competition rather than cooperation was more often the practice with weak of integrated vision among them. Moreover, decreasing in expert staff numbers and absence or scarcity of organized documented details of all statistical production phases led to lose important information required to modernize official statistics. Applying strong infrastructure based on effective statistical metadata management system that defines roles and tasks, and the work flow was the main concern to maintain the history of the data production and its related documents to produce accurate, reliable and timely statistical data. This required a significant institutional and cultural shift for the agency and its staff to meet that challenge. Some models were applied to achieve the goal, but practical application showed that each department that share to release the product has implemented its own vision without coordination among them. Several meetings were hold by top management team to find an optimum solution to overcome this obstacle. A general agreement has reached to use the standardized model that has harmonized concepts, definitions, and defines the roles of all phases of producing data to avoid the shortcomings that were found in previous models. An initiative was launched following extensive discussions to apply GSBPM as a reference model for process standardization in statistics production.

2. The Model

The GSBPM was produced by UN/OECD/ Eurostat which is previously known as the Statistical Value Chain (SVC). It is an international standard model that describes and defines the set of business processes needed to produce official statistics surveys, censuses, administrative records, and mixed sources. The name of the model of was changed to GSBPM (version 4) which was launched in 2009 (UNECE, 2009), and updated to version 5 in 2013 (UNECE, 2013) according to the feedback of

practical experiences from implementing the model from many statistical organizations. The model (version 5) comprises four levels (as shown in figure 1):

• Level 0: The statistical production process;
• Level 1: The eight phases of the statistical production process;
• Level 2: The 44 sub-processes within each process which;
• Level 3: A description of what is included in each sub-process.

Figure 1. The Generic Statistical Business Process Model (GSBPM)
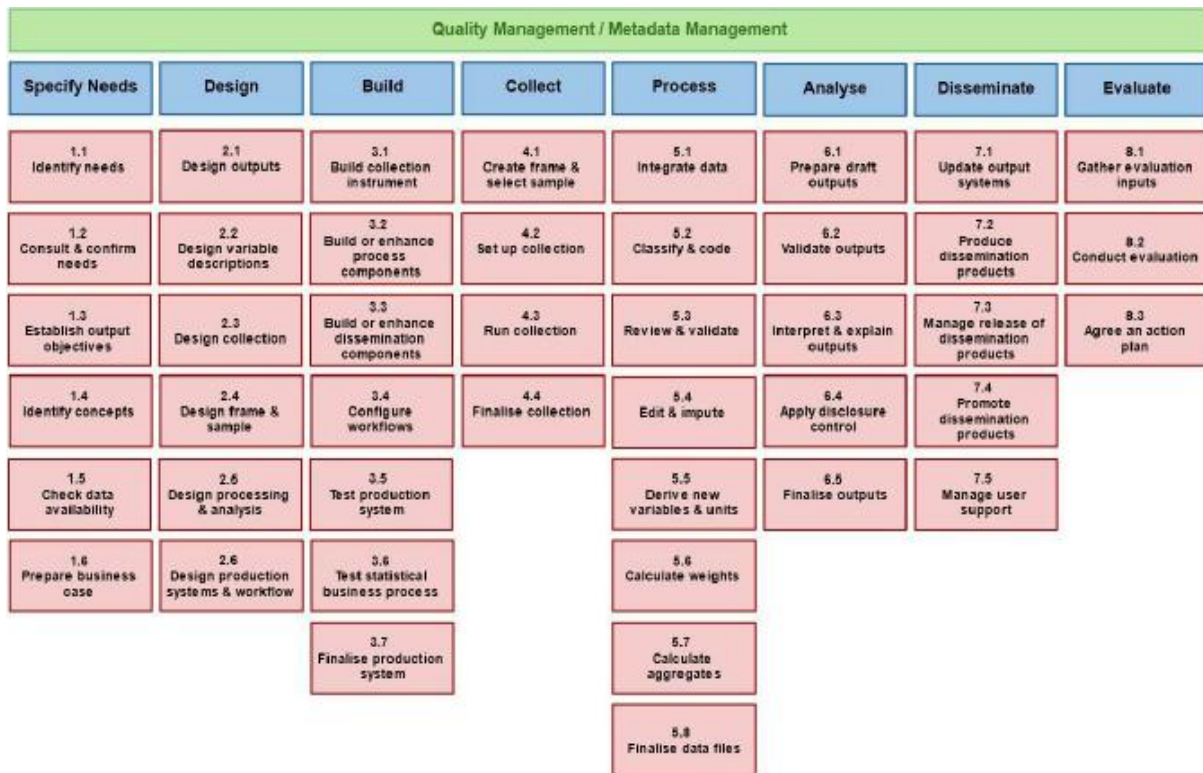
The GSBPM is a flexible model since not all the sub processes should be performed, the order of sub processes can be different from the one to another statistical product, and some steps it is possible to be repeated more than once.

3. Shift in CAPMAS to apply the GSBPM:

Arrangement the metadata management infrastructure in CAPMAS is important to establish a common and stable framework that can rely on (Bergdahl & Blomqvist, 2011). That required to do mapping GSBPM (version 4) with CAPMAS model, and shift to apply the model.

3.1 Mapping to the GSBPM

To apply the model, There was particular interest in studying the model and compare it with the CAPMAS' Statistical Business Process Model before applying it in order to determine the benefit of its use. Mapping GSBPM with CAPMAS' Model has done prior to application by top management and experts that share in producing official statistics to compare the difference between the two models and identify lacks and drawbacks that led to apply GSBPM. It demonstrates (as shown in Figure 2) that the first three phases (Specify Needs - Design - Build) are included in CAPMAS'

Statistical Business Process Model as (Plan) .This phase is not included in the official annual plan for statistical products that produced regularly. It could be found only in the special surveys.

Figure 2. Mapping between GSBPM (version 4) and CAPMAS model

GSBPM	CAPMAS' Statistical Business Process Model
1 Specify Needs	Plan
2 Design	
3 Build	
4 Collect	Collect
5 Process	Process
6 Analyze	Analyze
	Disseminate
8 Archive	
9 Evaluate	

The four phases in CAPMAS model (Collect- Process - Analyze - Disseminate) are identical with GSBPM model, but, in general, there was no agreed model for documenting the phases of the statistical products. To overcome that shortcomings , the decision in CAPMAS was apply the GSBPM model to address deficiencies in its model.

3.2 Institutional shift to apply the GSBPM

The main focus to apply the Model (GSBPM) in the statistical management system is to act as a framework that facilitates a higher degree of standardization. To do that, it is necessary to define the department that will be responsible for applying the model, the project management chair, and the staff members. CAPMAS has already a Metadata unit that was established by the end of 2009 with one department called (Metadata Editor) to supervise documentation, archiving data and its related metadata using Nesstar Publisher software, and disseminates it in a standardized way using National Data Archive (NADA)[1]. The unit is under supervision of the top management, chaired by a director general, and two statistical and technical managers to coordinate with staff members who are working inside their departments to review, edit, and achieve quality assurance of official statistics before dissemination. To involve the GSBPM project, additional department called (Metadata Management) has established and added to the metadata unit in order to develop and improve the overall production framework by the same staff members since that project requires the same administrative structure and to be integrated with the Metadata Editor department. In the mid of 2012, CAPMAS get a documented model of Armenia (ESCAP, 2012) and Norway (STATISTICS NORWAY, 2008) as a result of communication with international experts from (UNECE) to be a model for documentation. To ensure the best practices when implementing the model and use it as is, a blank template similar to the original translated into Arabic model is designed in order to help the staff members to read required phase in the model to be documented in the corresponding blank phase (Figure 3).To enable the staff members to use the model easily, translation for the GSBPM-version 4 (UNECE, 2009) and Armenia documentation model was done.

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[1] See International Household Survey Network: IHSN http://www.ihsn.org/

Figure 3. GSBPM (translated into Arabic) and blank template

To ensure the work flow efficiency and avoid overlapping among departments, the unit has established folder called (Metadata) in CAPMAS' server to enable each department access to their data according to definite rules which includes a (metadata management) folder organized in an administrative structure tree shape to enable each department to document its phase in the empty template and preserve the materials produced in the attachments folder in the corresponding phase as shown in figure 4.

Figure 4. Metadata folder
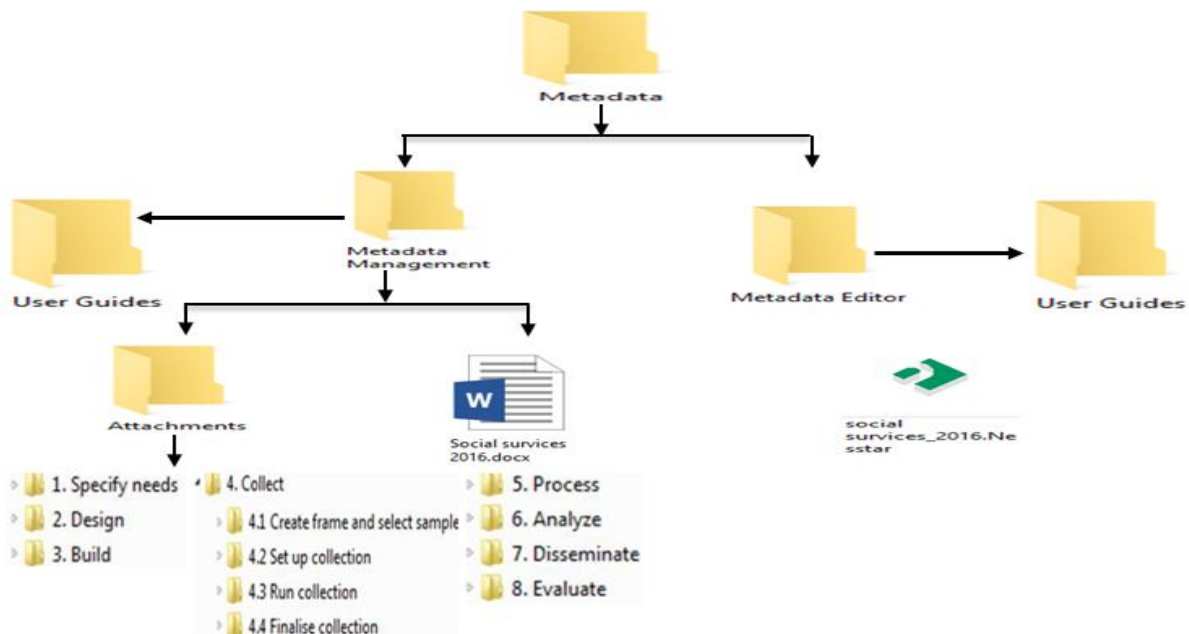
A following up system has established to ensure the staff member commitment to work tasks and proper interdepartmental coordination and workflow and achieve quality.

3.3 Cultural shift for staff members

The model became applicable after establishing metadata management system. Several meetings were held between the Metadata unit and departments staff members who involved in producing data (experts of top management , Metadata unit , data collection, statistics, IT, and Public relations) to explain the model, allocate tasks according to the model, achieve coordination, and defining how the work will flow among them. Because the staff members in CAPMAS have cultures with different personalities and goals, one of the main challenges we met in implementing GSBPM is the resistance of some stuff members to response as they consider that an additional task. Solution for this issue was explaining the reasons for change through convince them that this is an essential part of their work and demonstrating the advantages of applying the model and how it avoids the shortcomings of the current system. Pilot presentations on industry and service statistics were carried out before circulating the model on all departments to discover their ability in using the model and documenting their own phase and flow of work among them. By the end of 2012, presentations to all participants who share in producing statistics (1000 persons) were held as a final review before applying the model.

4. Application of the GSBPM

CAPMAS has applied the model "as is" by the beginning of 2013 using version 4. The model application required further clarification and coordination among departments to avoid duplication, overlapping of tasks among them. Explanation was conducted to each department to use its phase in the model correctly and avoid using a non-related phase. To streamlines the work, the unit has established a "user guide" folder includes translation of the model, documentation of Armenia, Norway, and other useful cases which used the model "inside or outside CAPMAS" efficiency. To achieve progress, GSBPM v. 5.0 (UNECE, 2013) has updated and revised. In the mid of 2013, the version has been applied and followed by workshops to explain the difference from previous one. This work is updated with introductory courses and ongoing support.

5. Benefits

Experience in transforming in the statistical production environment by applying GSBPM has demonstrated that applying GSBPM has achieved the agreement to use a standardized model and better understanding of the organization's work processes through a comprehensive and integrative view of the staff members that together produce the statistical products. As a result of the model standardization nature, it is used in CAPMAS to communicate internally and externally with other organizations for discussion to achieve best practices. Good preservation of the documented materials and their attachments according to its own phase helped to retrieve the materials (questionnaire - bulletin - press release - datasets) required for publication on the CAPMAS' website by Metadata editor department easily.

6. Future plan

To understand and manage the quality of the statistical products, implementing "Quality Indicators for the Generic Statistical Business Process Model (GSBPM) - For Statistics derived from Surveys" (Version 1.0, May 2016) is under preparation to be applied for the eight phases (UNECE, 2016). As part of the modernization of official statistics, phase 8 (evaluation) was established and included in the annual plan for the production of statistics and a model was prepared to be filled with the time of releasing of the statistical bulletin or survey, explaining the shortcomings and updates that will be made in the new version. A number of statistical models that can be integrated with GSBPM will be subject to revision to apply such as SDMX - Statistical Data and Metadata eXchange and GSIM - Generic Statistical Information Model (UNECE, 2013).

7. Conclusion

The paper tried to present the Egyptian experience in applying GSBPM to achieve standardization when describing the business processes needed to produce official statistics. Applying "GSBPM" has proved the need for strong support from the top management, as this initiative requires an institutional and cultural shift for the agency and its staff to meet that challenge. Resistance and rejection from the departments staff members involved was expected, as they do not see clearly the advantages that may derive from this work, but only additional work burden they will do. Although the staff members who are involved in these works have the commitment towards their tasks, the team of the Metadata Unit is close contact with them and providing training and assistance to facilitate the achievement of the targets.

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International Household Survey Network: IHSN http://www.ihsn.org/

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