Industrialization of Official Statistics Production Systems, What is It and How to Get There?

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Abstract

In today's rapidly changing world, statistical indicators that are composed consistently and timely play critical role in enhancing predictability and support evidence-based decision making. A challenge for the Official Statistics community is to be competitive within the global market, where the number of other actors providing data is increasing and necessities of data consumers expand and diverge. All of these dynamics are calling for modernized and agile production systems for Official Statistics.

In this environment, industrializing the Official Statistics production systems is proposed as a solution, and a requirement as well, by the statistical community and different implementations exist in the context. TurkStat's understanding of the practical meaning of implementing an industrialized structure is principally pursuing a metadata driven approach over the production system from end-to-end. In the essence, a common statistical language and well-defined processes have been kept as essential requirements of industrializing the system and basics of a proper metadata management. In this framework, GSIM and GSBPM play important role in designing next-generation industrialized systems. The power of the models lies in their ability to create a common understanding of all the objects and tasks that are used through the overall production phases. They break the systems into small well-defined pieces which enables the experts to easily design, re-use and organize.

When switching to metadata-driven production systems that are more standardized and operated with less human intervention, the software tools are the cornerstone instruments for both spreading the standard terminology and homogenize the processes. TurkStat's main viewpoint is to structure the overall system in sub software modules that are interrelated and interdependent. The product is designed as a collective title that comprise inputs, outputs and the processes of the produced data sets. Inputs and outputs are variables that are coming from a centralized searchable registry and the processes are operated generically independent of any subject matter area. This structure is called Product Management System (PMS) of TurkStat, where a number metadata operations are required for the producer units to navigate and sustain their production activities. With PMS system, the used objects are retained maintainable and versionable, correspondingly the metadata is kept up-to-date.

When deliberating "ModernStats" models and making developments, the emphasize must be on the real practical use that will be obtained through implementing the models. Sharing experiences, ideas, and plans about PMS is expected to contribute to this specific concern.