Elements of product quality and key aspects of process quality to be used in assessing Official Statistics

Product Quality:

Six components are typically referred to in relation to product quality in the European Statistical System, as outlined, for example, in the _Handbook on Data Quality Assessment Methods and Tools_[1]. These are described briefly below. These elements will be covered both in quality reports for official statistics and any assessment processes undertaken.

Relevance

Relevance is the degree to which statistics meet current and potential user needs. It refers to whether all statistics that are needed are produced and the extent to which concepts (definitions, classifications etc.) reflect user needs.

Accuracy

Accuracy in the general statistical sense denotes the closeness of computations or estimates to the (sometimes unknown) exact or true values. Survey based statistics will be subject to both sampling errors (errors which arise due to the fact a sample is surveyed rather than the full population) and non-sampling errors (any errors which may arise other than those due to the sample). Sampling error may not be applicable to administrative data sources where the source has full coverage of the population of relevance, however non-sampling error may still arise due to data processing etc.

Timeliness and punctuality

Timeliness of information reflects the length of time between its availability and the event or phenomenon it describes. Punctuality refers to the time lag between the release date of data and the target date when it should have been delivered, for instance, with reference to dates announced in some official release calendar, laid down by regulations or previously agreed among partners.

Comparability

Comparability aims at measuring the impact of differences in applied statistical concepts and measurement tools/procedures when statistics are compared between geographical areas, non-geographical domains, or over time. There are three main approaches under

---

[1]

http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/documents/HANDBOOK%20ON%20DATA%20QUALITY%20ASSESSMENT%20METHODS%20AND%20TOOLS%20%20I.pdf

which comparability of statistics is normally addressed: comparability over time, between geographical areas, and across estimates covering similar phenomenon.

Coherence

Coherence of statistics is their adequacy to be reliably combined in different ways and for various uses. When originating from different sources, for example from two different administrative data sources or surveys, statistics may not be completely coherent in the sense that they may be based on different approaches, classifications and methodological standards even though they are theoretically measuring the same or a closely related phenomenon.

Accessibility and clarity

Accessibility refers to the physical conditions under which users can obtain data: where to go, how to order, delivery time, clear pricing policy, convenient marketing conditions (copyright, etc.), availability of micro or macro data, various formats (paper, files, CD-ROM, Internet etc.) etc. Clarity refers to the data's information environment whether data are accompanied with appropriate documentation and metadata, illustrations such as graphs and maps, whether information on their quality is also available (including limitation in use etc.) and the extent to which additional assistance is provided by the producer.

Process Quality:

Process quality refers to the effective control of the process by which official statistics are produced. Good control of processes helps to ensure good quality data. For the purposes of the ISS CoP the key aspects of process quality which will be covered by quality assessments are outlined below:

Clarity of process

This refers to the extent to which the process for producing statistics is clear as evidenced by the existence of documentation describing the process.

Repeatability of process

This refers to the extent to which systems and documentation are in place to allow a process to be repeated.

Monitoring of process

This refers to the existence of management systems and metrics which enable the monitoring of process performance.

Evaluation and review of processes

This refers to whether a system of evaluation and review of processes and outputs is in place. Such systems are important to ensure improvement of process performance, and hence data quality, over time.