OECD Statistical Quality Framework –

Background

The OECD Statistical Quality Framework follows the definition put forward by Statistics Canada¹ and defines quality as 'fitness for use', in recognition of the fact that quality is a multi-faceted concept that stretches well beyond the narrow dimension of accuracy. This general definition is, in the main, common to most of the quality frameworks developed over the last few years and, from this overall definition, more detailed criteria follow.

The OECD framework identifies nine dimensions of quality, these are summarily described below.

Dimensions of Quality

Relevance

Relevance is a qualitative assessment of the value contributed by data to users; in particular, whether it meets user needs. It depends upon both the coverage of the required topics and the use of appropriate concepts; and can be measured by identifying user groups and user needs.

Accuracy

Accuracy of data products refers to the degree with which data correctly estimate the values that they are designed to measure. This can be difficult to measure since in theory it can be defined as the difference between estimated values and the (unknown) true values. However revisions analysis can provide a reasonable assessment of accuracy, since it provides a mechanism for determining how estimates change over time as they approach their 'final' value. Moreover for sample survey-based estimates one can determine the contributions made by coverage, sampling, non-response, response, processing and dissemination problems. And for other components one can assess the accuracy of seasonal adjustment techniques; and the separation of values into price and quantity components, for volume estimates.

Timeliness

Timeliness refers to the length of time between the availability of statistics and the event they describe

Punctuality

Punctuality refers to the existence of a publication schedule and reflects the degree to which data are released in accordance with it.

¹ Statistics Canada (2002); *Statistics Canada's Quality Assurance Framework*; Catalogue no 12-586-XIE.

Accessibility

Accessibility refers to the physical media in which data can be obtained, the suitability of the media form, the support services and information that allows users to readily identify these sources; as well as other practical information such as pricing and delivery.

Interpretability/Clarity

Interpretability refers to the data information environment; in particular the metadata (documentation, explanations, sources, accuracy) that supplements the data; allowing users to fully understand, use and analyse the data.

Consistency/Coherence:

Statistics should be consistent within datasets, across datasets, over time and across regions and countries.

Credibility Transparency/Integrity

The credibility of data refers to the confidence that users place in those products based on their image of the data producer and based on the confidence they have in the objectivity of the collection, processing, and dissemination of statistics. This implies that the data are perceived to be produced professionally in accordance with appropriate statistical and ethical standards, and that policies and practices are transparent, (where transparency is defined as meaning that data revisions follow a regular and publicised procedure). For example, users must be confident that data are not manipulated, nor their release timed in response to political pressure,

Credibility is determined in part by the integrity of the production process. Principle 2 of the UN Principles of Official Statistics (1994) states: "to retain trust in official statistics, the statistical agencies need to decide according to strictly professional considerations, including scientific principles and professional ethics, on the methods and procedures for the collection, processing, storage and presentation of statistical data".

Cost-efficiency

Cost-efficiency in the production of statistics is a measure of the costs borne by statistical offices and borne by respondents and the providers of primary data. Although it is debateable whether costefficiency is a quality criterion for statistics, it is certainly a dimension that needs to be taken into account, including in the implementation of quality assurance and quality assessment frameworks themselves.

Principles of quality management

As with the dimensions of statistical quality, there is no single definitive list of the principles of quality management across institutions, however all adopt common criteria. These can be summarised into six specific areas:

Achieving Credibility

Credibility is fundamental to the effective use of official statistics. One key pre-requisite that establishes credibility is the legislative framework that exists to demonstrate the integrity of official statistics; in particular the amount of independence afforded to statistical institutions and their freedom from political interference. On top of this essential requirement, statistical offices can further achieve credibility by ensuring that information regarding methodology, sampling, surveyerror, revision history, publication dates, and revisions' processes are made available. In addition data should be timely, accurate, and punctual.

Maintaining the Relevance of Outputs

The relevance of outputs is ideally determined by putting in place formal mechanisms that allow users to provide regular feedback. Users should include government, central banks, business and the community. The development of new outputs or improvement to current outputs needs to take into account the relationship between quality (in particular, accuracy) and cost. Some statistical agencies resolve this dichotomy in the short-term by producing new statistics on an experimental basis.

Entertaining Effective Relationships with Respondents

Survey information is the main source of statistical data. The importance of well designed surveys that are readily understood by respondents is paramount therefore to achieving good quality statistical data. In this context frameworks (that provide electronic and human support for respondents) are essential. Respondents should also be fully briefed on the purposes and importance of the data being collected. The burden of respondents should be minimised subject to the quality required from the surveys. In this context survey design techniques should be as efficient as possible and, wherever possible, duplication of questions in surveys should be avoided. It is desirable to construct surveys that are based on common, or comparable, classification systems.

Putting in Place Processes that Produce High Quality Output

<u>Methodologies</u>

A number of processes, or factors, contribute to producing high quality output. The use of sound methodology in the construction of statistics is high amongst these. Methodologies should be quality assured (for example processes should be reviewed regularly) and compared with international best practice. Survey design methods should also be subject to continuous review to ensure that costs are minimised for a given level of accuracy. Statistics should also be internally consistent, for example national accounts estimates should be balanced through supply-use frameworks.

Information Systems (Software)

More generally all data should be stored in a central 'information warehouse' where data on similar items but from different sources can be scrutinised for consistency/coherence. This requires the development of efficient IT systems that can support such a warehouse; including any additional analytical tools that can test for the plausibility (and thus consistency) of non-observable identities such as productivity, and the production of statistics on a timely basis; in accordance with preset publication dates.

Reviewing and Evaluating Statistical Activities

Each statistic should be subject to some process of quality review and improvement; which, in theory, should be measured by a quantitative or qualitative assessment indicator. These indicators will usually be expected to follow one or more of the quality dimensions outlined above.

Hiring and Keeping Skilled and Motivated Staff

Skilled staff are, arguably, the most important factor in delivering quality statistics. In this context the development of staff skills forms an important element of the quality framework. Identifying skill gaps and development areas should therefore be an integral part of performance management systems. The development and use of project and process management systems is also an important factor in this context, and institutions should ensure that the tools and resources necessary to support these systems are in place.