

# Quality Management in the UK Office for National Statistics: summary

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## **1.0 Background**

Statistical Offices face the challenge of delivering a wide range of high quality statistical outputs and services to meet the needs of users working in an evolutionary environment. For UK National Statistics this challenge and the associated requirement for good quality is recognised in its published Framework Document, which states that the primary aim of UK National Statistics is “to provide an accurate, up-to-date, comprehensive and meaningful picture of the economy and society to support the formulation and monitoring of economic and social policies by government at all levels”.

The Framework Document supplements this with objectives and responsibilities in pursuit of the aim:

- “to improve the quality, timeliness and relevance of its service to customers both within government and the wider community”;
- “to improve public confidence in official statistics by demonstrating that they are produced to best professional standards and free from political interference”.
- it is the responsibility of the National Statistician to ensure the professional statistical quality of all outputs comprising National Statistics;

This paper describes the operation of the quality framework for UK National Statistics and the benefits that are expected to accrue. It then gives an overview of the quality management system adopted for the processing of the monthly U.K Retail Prices Index

## **2.0 The Quality Framework**

The Framework Document for UK National Statistics, published June 2000 defines the UK statistical system and sets out the broad parameters of that system. It establishes the position and roles of National Statistician and the Statistics Commission, as well as the roles of departmental Heads of Profession and Ministers. It also prescribes the development of a code of practice and a quality management framework. It requires the review of all key National Statistics outputs at least once every 5 years. All reviews will be assisted by external experts and should address user needs and the quality of outputs. Presentation of results will be to the National Statistician who will publish the report and his response.

National Statistics are defined as a series of outputs that can be added to, by ministerial agreement, or from which an output can be taken by the National Statistician if he judges it not to meet professional standards. Quality management is largely discussed in terms of quality of the individual outputs, and indeed this paper is concerned in large part with the quality of one particular output. However the first part of the paper deals more broadly with the issue of quality assurance of UK National Statistics, as a system of statistics.

The Fundamental Principles of Official Statistics, endorsed by the United Nations Statistical Commission, are widely agreed as the appropriate defining principles for a national statistical system. The first principle relates to achieving a balanced coverage in statistics that places emphasis on the 'citizen's right' to know.

The second relates to professionalism in the choice of method and approach to presentation. The third relates to providing appropriate information to enable fitness for use to be judged, and the fourth relates to freedom to comment on misuse of data. The fifth principle relates to using cost effective sources that take account of load on the respondent while the sixth relates to maintaining the confidentiality of data and ensuring it is used for statistical purposes only. The seventh principle requires the laws, regulations and processes under which statistical systems operate to be made public.

Evaluating the decentralised system of National Statistics in the UK against these principles reveals clear strengths and areas of tension. The Framework seeks to minimise the tensions while building on the strengths. A clear early tension in the UK approach, not fully resolved by the Framework, is in the first principle. The decentralised system provides a very good mechanism for coverage across a wide range of fields in terms of the statistics of most interest to the public, as well as policy makers. The framework holds the minister in each portfolio clearly accountable for the statistics that are, or are not, declared National Statistics, within their portfolio. Those statistics nominated must then be developed and maintained to meet the Code of Practice standards.

This is a special and very powerful approach. Its openness makes the ministers accountable to the public for the coverage of statistics, ensuring that areas of particular concern in terms of government performance, for example hospital waiting lists, come within the ambit of a professionally managed statistical system. While there is a tension in achieving the 'balanced coverage' that meets the 'citizen's right to know' in this system, given that coverage is based on political judgement (the ministers for the various portfolios) rather than the professional judgement of the National Statistician, however there are strong checks in the system. The National Statistician provides advice to ministers on appropriate coverage, and it is one of the roles of the Statistics Commission to report to Parliament in an open document, on a number of issues, including coverage. This transparency provides the pressure needed to ensure a reasonable balance is achieved. A secondary issue relates to the difficulty of co-ordinating cross cutting issues. The decentralised approach allows for a highly relevant set of statistics, but makes complex the process of achieving a good balance of resource use across fields of statistics, especially those crossing ministerial boundaries.

The second principle relates to professionalism in choice of method and presentation. Here the Framework Document provides a clear role to the National Statistician and Heads of Profession in the various agencies, to ensure professionalism. The code of practice will provide the standard setting mechanism for this professionalism, and is a very significant document, in a decentralised environment. Not all past practices for National Statistics will meet the code, and ensuring that appropriate standards are set that provide the assurance of professionalism while recognising particular issues (particularly in relation to administrative data) is a complex process. As National Statistics matures, there are likely to be instances where the National Statistician will need to be able to take action against inappropriate practice, in the face of potential political pressure. The National Statistician is not backed in this role by any legislation, but rather by the existence of the Statistical Commission and its ability to report openly to Parliament.

It is worth noting that in relation to the integrity and credibility of statistics, as well as the trust of respondents, the reputation of a statistical system is dependent on all its participants. Any individual player can detract substantially from the creditability and trust of the system. This places extra pressure on a decentralised system to make effective use of tools such as a code of practice to achieve consistently high standards. At the same time, gaining agreement on the code of practice, and ensuring its effective implementation across outputs, is made more difficult where there is a large number of stakeholders involved. This in itself results in some tensions in developing and implementing the code of practice.

The seventh principle, requiring the laws, regulations and processes under which statistical systems operate to be made public, is well met by the Framework Document which clearly sets out the way the system operates in a very public way.

### **3.0 Quality and the ONS business strategy**

In order to meet the challenges of an integrated system of National Statistics, the ONS has reviewed its business strategy and developed a programme to invest in the organisation's infrastructural core in a way that will support improved quality, particularly in terms of improved coherence and flexibility to meet emerging needs in a timely and cost effective way. A major investment strand will involve building a strong technical and policy environment for managing National Statistics information, both data and metadata. An equally important strand of the investment programme will focus on building methodological capability, and sound standardised methods, as well as developing the policies and technical tools to support their use.

### **4.0 Excellence Model**

A decision has been taken to use the European Foundation for Quality Management's Excellence Model as a practical tool to identify progress made on the path to quality improvement and excellence in business performance, and more specifically to identify gaps and how these might be addressed. It is a self-assessment diagnostic tool that focuses on organisations and general business areas. It looks at performance against five criteria covering what the business area does (leadership, policy and strategy, partnerships and resources, processes, and people management), and four criteria on what the business area achieves (key results, and results based on perception of customers, people and society). Evidence based on feedback is used to assess performance across the criteria and an action plan for improvement is introduced. This is then included in the business plan. The process is carried through by staff in the work areas and implementation is owned by them.

The model provides an umbrella for other initiatives and should not be seen as competing with other quality improvement activities. For instance, it is being used by compilers of the UK Retail Price Index to identify the potential for business improvements given previously achieved Investors in People and ISO9002 accreditation.

## **5.0 Quality management of the UK Retail Prices Index: a case study**

In the case of the UK Retail Prices Index, LiP and ISO9002 have been used as evaluation and improvement tools for staff development and the quality management of the production processes respectively within an overall framework provided by the Excellence Model.

The UK RPI measures the change in the total cost of an imaginary fixed basket of goods and services chosen to represent what people typically spend their money on. The production timetable is very tight. Every month price collectors go into the field and use portable computers to obtain about 120,000 prices for about 500 goods and services sold in 15,000 shops covering 146 locations throughout the country. These are then collated electronically and sent to ONS where they are further checked and processed. It has been the opportunities that have arisen from the move to computerised price collection in 1995 that have influenced the approach to quality management of the RPI and provided the greatest gains. As a result ISO9002, whilst not the only quality tool deployed, was the starting point for quality management.

### ***The ISO9002 accreditation process***

The International Standard ISO 9002 states that “The supplier shall establish, document and maintain a quality system as a means of ensuring that the product conforms to specified requirements”. The view was taken that whilst ISO 9002 does not set standards or guarantee quality it does provide a readily available framework within which quality could be continually improved. Also, international recognition was seen as an advantage.

### ***Key Features of the RPI Quality Management System***

There are three specific features of the RPI Quality Management System, which are particularly worth noting:

- **defining standards.** This includes defining what is required and how it should be done. Defining standards provides a benchmark for monitoring performance;
- **describing the processes.** To describe the processes requires standardised and quality assured documentation, which is accessible to all. It is required for business continuity and training. At a higher level it can also contribute to considerations relating to organisational structures.
- **producing the evidence.** Audit arrangements need to be in place to ensure the processes are carried out properly and to a satisfactory conclusion as measured against the defined standards.

The above features underline all aspects of the RPI Quality Management System. The key aspects of the system are threefold. Each aspect should be seen as inter-dependent and an integral part of the whole:

- **documentation of the monthly production processes;**
- **auditing of local price collection and monthly processing;**
- **A regular review system** (which focuses both on the monthly production process and longer-term issues).

### ***Documentation of the Monthly Production Process***

The benefits of good documentation were perceived to be wider than providing useful reference documents for the training and induction of staff, for example by adding to the integrity of the index, by providing transparency to methodology and procedures and also by adding to user understanding. It also provides a means of knowledge sharing to assist with staff cover. Electronic documentation provides additional benefits.

### ***Auditing of local price collection and monthly processing***

This activity involves two main components: an accompanied check of price collection in the field; and a random post-hoc check carried out within two days of the main fieldwork. Each month each ONS auditor accompanies a price collector in one location chosen at random to ensure that the latter is correctly following the procedures and instructions laid down for price collection. The random post-hoc check involves randomly selecting each month a sample of locations and items for which the prices are to be audited. The principal aim is to see if the rate of error is acceptable; an error probability of 4% or less, and not systematic.

### ***Reviews***

Quality is defined as “continuous improvement” and as such it is important that outcomes are reviewed as part of the forward planning process. It is for this reason that short-term and longer-term review procedures have been put in place.

### ***Quality Days***

This is the central tool for the review and delivery of quality in the short-term. A Quality Day is held at the end of each production cycle and is in two parts:

- a general session involving two-way feedback and in training and development sessions of mutual benefit;
- the production team focussing on quality issues that have arisen and including a forward look at issues arising over the next cycle so that appropriate working arrangements can be put together.

### ***The annual planning round***

The longer-term element of the quality review system focuses on a higher level strategic look at objectives and how they are going to be achieved. This review is conducted as part of the annual planning cycle and addresses not only the quality of outputs assessed against user needs but also the processes by which quality is going to be achieved.

### ***Training and Investors in People***

Investors in People is an externally recognised national standard that sets a level of good practice for improving an organisation's performance through its people. Its key principle is that businesses cannot succeed in meeting their business goals unless they develop their people sufficiently by identifying training requirements, suitable training opportunities and evaluation of outcomes. Each person has a Personal Development Plan.

### ***Evaluation of the RPI quality management system***

It is too early to carry out a full evaluation but a few initial observations can be made:

- effective quality management is a continuous process requiring an appropriate organisational framework;
- formal quality management procedures such as ISO9002 can be very effective for production processes such as the compilation of statistics but accreditation should not be a goal in its own right;
- different quality management systems focus on different aspects of quality control and can therefore complement one another within the overall quality framework.

## **6.0 Conclusions**

Whilst recognising the tensions associated with a decentralised system, the UK Framework for National Statistics provides a very transparent process to improve and maintain public confidence in official statistics by demonstrating that they are objective and produced to the best professional standards. This is further supported by initiatives to ensure that proper statistical infrastructures are in place. Experience associated with the quality management of the RPI indicates that formal quality management systems can play an important part in the quality management process and in the delivery of high quality statistical outputs.

Resum ■

Cette papier examine la signification de la qualité dans le contexte de la production statistique; les approches différentes disponibles à l'administration de la qualité et comment ils sont mesurés.

Alors, il décrit les aspects différents du système de l'administration de la qualité pour les indicateurs des prix de détail et comment ils sont faits. Il décrit aussi quelques avantages du système et prend d'un œil critique aux leçons que nous serions en mesure d'apprendre.