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Topic (iii): Dissemination of statistical commentary and stories. How to get them through to the user

**THE POWER OF THE WEB TO TRANSFORM THE TELLING OF STATISTICAL STORIES**

**Supporting Paper**

Submitted by the Office for National Statistics, United Kingdom<sup>1</sup>

**I. Introduction**

All over Europe, the organisations responsible for providing official statistical information to the government and public have been faced with a growing number of challenges and changes. They are operating in a culture that demands good communication, accessible to the general user. And government itself tends to make more strategic use of statistics in its performance measures and evidence-based decision-making. This creates a demand both for new types of information reflecting social and economic change, and new ways of presenting it.

Methods for distributing information have also been transformed, creating in turn a whole new enhanced wave of demand. In particular, the web provides a broadcast medium that can reach millions of people, link users to further sources of information and analysis, enable powerful searches and make it easier for the provider to manage internal standards and workflow.

Together, these changes make it possible for official statistics to hold a new place in public life. They have implications for the impact of statistics on policy, on democratic accountability and on education. They underline the case for national statistics organisations to play a role in educating the citizenry by making its information relevant and interesting, and by telling the story behind the information.

In this paper, the ONS outlines how the role of storytelling has evolved in the UK government statistical service; what it is doing to explore the potential of those changes; what lessons it has learned in the process; and its vision of how the role of the statistical service could develop in the future.

**II. The beginnings of statistical storytelling in the United Kingdom**

Almost exactly 33 years ago, a new type of government statistical publication was launched, making a major break with tradition. *Social Trends*, first published on December 17, 1970, banished footnotes to the back pages and presented information about key changes taking place in society in simple tables, illustrated by charts. The first edition attracted enormous publicity and was on the list of Christmas reading recommended by the Sunday papers. The *Financial Times* described it as 'very saucy' and found that 'information is presented and processed [...] in such a way as to produce a picture that has not been regularly available before'.

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Other countries were quick to follow. In 1973 the French Institut national de le statistique et des études économiques (Insee) published *Données Sociales: la société Française* and in 1974 the United States followed up its preparatory *Towards a Social Report* with a large and complex volume of *Social Indicators*. During the rest of the 1970s Australia, Japan, Canada, and Finland and many other European countries prepared their own social reports.

Although the aim of *Social Trends* has changed little over time, giving an overview into a wide range of policy areas, there have been developments in the content. Descriptive text was added after 1977 to help the reader understand the figures and new data sources continually become available. Each edition is looked at afresh, not just updated, so that it contains a balance of core information and topical issues. In recent years the publication has adopted a ‘story’ approach, bringing together different data on a topic and providing additional information, rather than just commenting on the charts and tables. In addition, signposting has been added to more detailed information and other references, for example to further reading and relevant organisations or websites. In the 1990s the sister series *Social Focus on...* was developed to cover different groups of people in society, such as children or older people.

There is still a demand for *Social Trends* as a paper document. However, since 2000 it has also been available for free on the National Statistics website and has proved to be the most demanded document there, receiving around 5,000 unique visitors a month.

The advantage of *Social Trends* is that it brings everything together in one place. The disadvantage is that it is only updated once a year. As a result, in 2002 the ONS began developing a series of topic-based summaries for the website under the rubric ‘UK at a glance’ [see below]. These have proved popular, prompting a rethink about the format of *Social Trends*. If users prefer to read a section or chapter through from beginning to end, then our current format meets their needs. However, if they want information on a specific topic, we could redesign the publication as a selection of our summaries, adding new topic-based summaries for any new topics that we identify. In this way a continually updated version of *Social Trends* would be available on the website. We are currently commissioning market research to determine what our users and readers want from the publication, and *Social Trends 2005* may see us moving in a new direction.

### III. Current practice for an informed citizenry

The current prevailing view of democracy in many countries holds that citizens can and should get the information they need to hold governments to account on their policies. This view in the UK overturned decades of pursuing a line that official statistics were primarily there to inform ministers of state (The Rayner Report, 1981).

The British prime minister, Tony Blair, describes the access to trustworthy official statistics as ‘essential in any healthy society’. ‘Statistics encourage debate, inform-decision making both inside and outside government and allow people to judge whether the Government is delivering on its promises,’ he said in 1999, ahead of the 2000 launch of National Statistics.

He echoed the words of another European leader, President Lionel Jospin of France, who commented in 1989: ‘The right to information has become one of the fundamental rights of the 20<sup>th</sup> century citizen [...] The work methods you use are complex, the data you deal with difficult to evaluate. An effort to explain [to the public] is necessary. This effort is required by democracy.’

But how do you inform the citizen? How do you enable the public to get hold of data that covers the whole of life, from the state of the national economy through to the state of the local environment, from the childbirth rate to the impact of the Internet?



This collection of topic-based summaries is called 'UK at a glance' and kept up-to-date as each statistical release appears. In traditional parlance, it could be described as a yearbook that is updated daily. It takes the idea of story telling began in *Social Trends* and adds to it the economic areas not previously covered. Anecdotes indicate that not only citizens find it helpful. Professionals find it invaluable for guiding them to the articles and data available on a particular subject.

Data on a particular topic (for example the number of unemployed or single parents) can be collected in several different surveys and sources. The approach uses the expertise of National Statistics staff to guide readers to the measure considered more reliable, with explanation as to why that is so, rather than leaving the reader to try and sort it out.

The power of the web enables us to provide a layer of easy to understand statistical stories which can be easily updated, which are complete in their own right but which also provide a navigation tool that helps users to find other relevant summaries, in-depth articles and data.

#### *Organisation and the Publisher-Editor relationship*

The most common question we receive about our work is: how do we organise it? In other words, who does what? Are they from the communications area or the statistical area?

The answer is that the work is a decentralised collaboration of individual producers, but with centralised oversight. The production of a single topic-based summary is distributed to an expert analyst in the statistical area for writing, overseen centrally by a statistician to ensure correctness and usefulness, and reviewed by experts in the communications area for consistent clarity.

Within the communications area, the person with the role of 'publisher' specifies the product ("UK at a glance") for a particular group of users and agrees with the organisation on the appointment of an 'editor-in-chief' from the statistical area. The editor prepares the editorial rules, selects the topics to be covered and writes, commissions and edits the content as necessary. The editor also ensures that each topic-based summary is statistically correct. The content is then edited for clarity, usually by a sub-editor in the communications area. The final sign-off is the responsibility of the statistical area. The publisher goes on to monitor the way content is used, to ensure that the content meets users' needs and interests and fits sensibly into the whole offering to be found on the website.

This brings a typical publishing house model into a national statistical organisation, and so far we have found that it uses the best skills and expertise of all the staff.

#### *Training and standards*

The generation of stories rather than just raw data has led to the growing need for 'authors' from a wide range of backgrounds: some have advanced analytical experience in the topic while others have none; some will have years of writing experience while others may be just starting out. In light of this, it is important that we have both strong corporate standards and a training programme in communicating statistics.

In 2001 we produced the *ONS house style & author's guide*, drawing from the publication *Plain Figures* used by authors working on *Social Trends* and other ONS publications, to promote consistency of style across the organisation. It covers grammatical points, use of terms, and general guidelines on how to produce clear charts and tables.

Alongside this, we developed a tailor-made training course with the UK Civil Service College. The course, called Presenting Data, covers the preparation of simple demonstration tables and charts from reference data, the basic principles of how to identify key points and some practical examples of statistical stories. All authors on social reporting publications are strongly encouraged to participate in this two-day course, which is led by an ex-ONS social reporting editor.

The move to the web in the form of topic-based summaries has meant that we have also had to develop an expertise in writing for the web. Many of the same principles apply, but the writing style requires shorter sentences and paragraphs, a different structure, and the addition of signposting links.

Wherever possible, we are keen to encourage the producers of the data to be involved in writing the relevant topic-based summaries. However, experience has shown us that many analysts are not used to making this adaptation to their work and to providing simple statistical stories. To overcome this, an experienced author works with each statistical producer to draft the initial summary. After that, the producers update the summaries themselves whenever new data are released. This has worked to a certain extent, but one year on we have identified a need to review the summaries regularly, as some have departed from the initial simple message style.

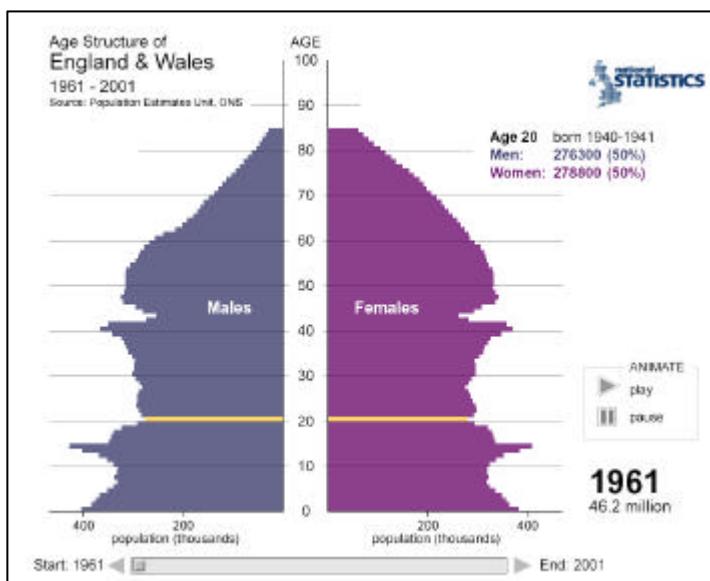
### *New tools for visualisation*

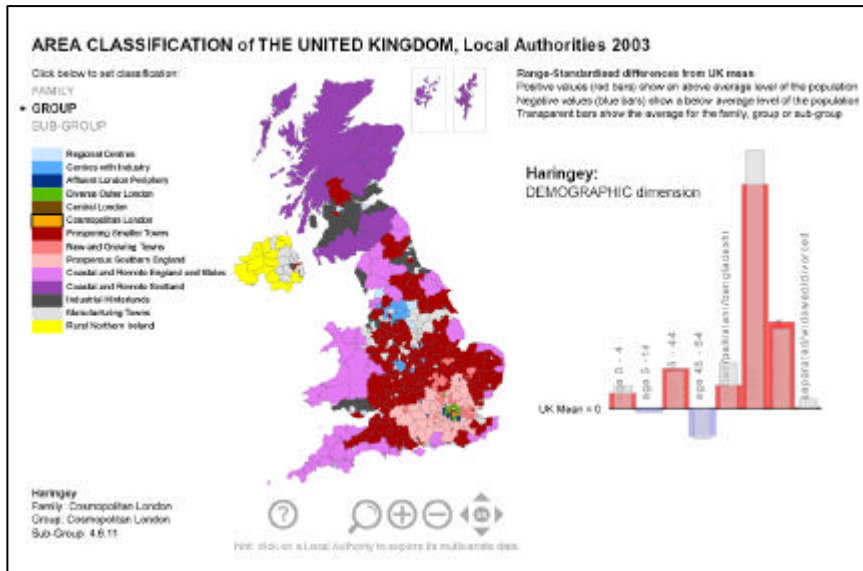
Although textual data has been transformed by the shift to the web as a delivery channel, data visualisation on the web has still not yet developed to its full potential. Most efforts suffer from screen resolution issues, mainly due to the lack of vector graphics on the web. It is rarely possible to change the appearance of a graphic without having to reload the entire image from a server, severely limiting the experience of the user as a result.

This severely limits the use of maps and diagrams online, particularly time-series diagrams, where users want to choose which series to compare, and animated population pyramids. Existing examples are mostly animated images that cannot be altered or queried by the user.

To fill this gap, the ONS has been working on several prototypes, including a new file format called SVG (Scalable Vector Graphics). It is an open format with a basis in XML that brings interactive and data-driven graphs to the web. The main advantage is its small file size, the freedom to separate content from appearance and the way that interactivity and animation can be realised from within the format. It is suitable for printing at high quality and accessible to search engines.

Some examples of the SVG at work are already available on the ONS website, including an interactive map, based on the 2001 Census, which allows users to view the data by different variables, and the population pyramids, which are interactive, data-driven and easy to adapt to show change over time.





The provision of local information in an interesting visual way has been particularly valuable in demonstrating the usefulness of statistics to the general public, which tends to relate most to what is happening locally, for example concerning crime, pollution, schools, healthcare or house prices. Such statistics tend to appear deep within structured databases and are often hard to find. By relating data to geography, however, one can drill down to a relevant area and find information, or ask questions by 'show me where...'. Even without the new visualisation techniques, simply putting the information in the right place unlocks the richness of data previously hidden.

#### IV. From improving communication to transforming statistics

Official statistics would appear increasingly irrelevant to the needs of the nation if no attempt were made to ensure a more populist communication. Almost all major organisations have invested in creating information environments that are more populist and relevant to the needs of their customers, whether it is buying airline tickets online or declaring their environmental policies and other social responsibility programmes. The current culture expects good communication that is accessible to the general user: the information environment in which official statistics are released has changed.

It is not only the information environment that has moved, but also the statistical one. Statistics are now discussed more widely, either because of the results of statistical research (the impact of an ageing population) or because of the evidence it can bring to a question of the day (the UK government's five tests for joining the common European currency). Furthermore, there is a recognition that in many cases, historical data have been used more to measure the operations of state agencies rather than the subject matter itself, and this sometimes needs rectification. New statistical models and processes have evolved and there is a greater choice of alternative information sources.

Government itself makes more strategic use of statistics in its performance measures and evidence-based decision-making. Reliable and understandable statistics are forming a greater base for policy-making than hitherto, even if they do not impinge directly on policy creation. This is particularly so when already stretched resources are being made to go even further.

In turn, these changes raise expectations. A public that has a greater understanding of official statistics is a public that goes on to demand even more information, often in areas that are less easy to measure. And statistical offices are constantly asked to develop new measures, to meet international expectations and measure social and economic phenomena that can be vague and intangible. In the UK, for example, this includes pressures for statistics that describe the effect of the new economy; the impact of globalisation;

pension contributions; the distribution of wealth and income, particularly in the area of low pay; and the disaggregation of statistics to support regional and devolved government.

Moreover, the ready availability and greater use of statistics by untrained people raises questions about whether the information is used for purposes for which they were never intended, thus undermining perceived quality. It is not only statistics that need to be available but also metadata about statistics, and ways of presenting them that indicates appropriate use.

This integrated approach to finding and explaining the information being held transforms old print ways of thinking about statistical publication. In particular it has enabled a rolling 'year book' of topic-based summaries crossing all official statistics. The evidence proves the concept: there is an increase of usage of both website and datasets; TV websites pick up and point to topic-based summaries; and user testing shows they are liked. This however, is just one step on the way to ensuring that the user finds all relevant data to his or her enquiry, and providing a much more robust and vital support to decision-making.

Citizens are but one stakeholder among many. However, as the UK's National Statistician Len Cook has noted (2002), perhaps one of the most important aspects of the new framework is the recognition that senior politicians are most likely to trust a system that the public can see they have good reason to trust. In other words, citizens' access to and trust in official statistics are likely to lend support to evidence-based policy-making, rather than simply being doctrine-led.

## V. Summary

Statistical story-telling has a long history in the UK, beginning with the innovative *Social Trends* and moving on to use the power of the web to provide a new layer of communication. This consists of short, up-to-date stories of relevance and interest to a more general audience. The endpoint will be a rolling yearbook of the state of the UK on any day, encompassing all the areas in which the government publishes National Statistics.

Story-telling is not just done through words; a picture can also tell the user a great deal. The ONS has begun to explore the new possibilities offered by interactive figures using Scalable Vector Graphics (SVG), which combine image and data in a dynamic way. Our early trials indicate that there is much to explore that will be of value for the user.

The ONS makes it a priority to tell the story to be found in the statistics. But telling the story is not an end in itself. By making statistics more accessible and understandable, statistical providers can empower citizens and other stakeholder groups. By wanting to know more, these users will challenge statistical organisations to move on from data collected on the same subjects, in the same way, for decades.

A focus on the citizen highlights the need to modernise the official statistics infrastructure, if it is to be more responsive to the questions of the day. We need a new responsiveness, flexibility and depth in the infrastructure. Much of the change could come in the harmonisation of collection and integration of data.

ONS is investing in this kind of modernisation, and by 2006 will have a 21st century statistical system that will support the stated goal of providing the data essential to a healthy democratic society, and of building trust in that data. Clear, relevant and interesting communication will engage users of the data in the debate about what will be required of national statistical organisations in the 21<sup>st</sup> century.

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[The commitment to create an IAR was announced in the White Paper *The Future Management of Crown Copyright* (Cm 4300, 1999) and subsequently adopted as a recommendation in the UK Online Action Plan.]