

CESS 2018

STS05: Mainstreaming stakeholder interests: How can interaction with societal groups be enhanced throughout the entire production process of statistics?

Outline

Principles of official statistics in the era of digitisation

Before going into more detail about some of the important aspects of interaction between users and producers of statistics, the baselines are condensed into a few guiding principles¹.

High-quality, official statistics strengthen democracy by allowing citizens access to key information that enhances accountability. Access to robust statistics is a fundamental right that facilitates choices and decisions based on valid information. Without statistics, there cannot be a well-grounded, modern, or participatory democracy. Statistics is key for people empowerment.

Official statistics are the cornerstone of public open data; they are the basis of open government. For example, on the EU Open Data Portal, the Eurostat statistical database accounts for the bulk of data on offer. Enhancing access to statistics in open formats enables the free use of data, its interoperability, and its consumption in integrated modalities. As a result, open statistics allow citizens to make sense of complex phenomena and help in their interpretation across borders and without limits. As such, open data and open statistics are a key driver of free dialogue in open societies.

Statistical literacy is critical in ensuring that individuals benefit from the power of statistics, and can benefit from open access to statistical information and its associated services. Data literacy ('datacy') is not limited to knowledge of basic statistical information: it entails knowing about the limits of statistics and their use/misuse. The ability to understand statistics, and how they are produced, is a fundamental skill for each individual. 'Datacy' is a key enabler for citizens.

Data for statistical services is worthless unless statistical methods are in place to ensure quality. In the digital ecosystem, where data is abundant and a commodity, the value of information is increasingly based on algorithms that generate tailored insights for users. The future is smart statistics.

On the whole, the general public is distanced from official statistics and valuable statistical information. Hence, a bridge must be built between experts and laypeople to overcome this distance and to foster understanding. Providing better information to users and non-users, and being able to counter misjudgements and prejudices with facts, is probably the part of the statistical mission that has the greatest added social value. That mission is about education and providing information that is orientated towards the layperson. However, it should also be about co-design and co-production, with the overall aim of involving the public in the generation of statistical results.

As statistical information is increasingly used for policy decisions, statisticians need to investigate how their services are either used, not used, or misused. They should also examine the ethical implications and the impact of evidence use on the policy cycle. More influence means more responsibilities.

¹ The principles were presented in the Conference of European Statistical Stakeholders CESS 2016 in Budapest (Radermacher and Baldacci 2016).

Box 4.1 Guiding principles of official statistics

- **Statistics is key for people empowerment:** Statisticians should be aware of data's power to provide information and, hence, knowledge.
- **Open data is fundamental for open societies:** Statisticians should ensure open and transparent access to data and metadata, and monitor their actual use for information and knowledge.
- **'Datacy' is a key enabler for citizens:** Statisticians should promote data literacy in society at large, and regularly monitor the levels of understanding.
- **The future is smart statistics:** Statisticians should continue to invest in methods and algorithms that enhance the quality of data for statistical services tailored to users' needs.
- **Users participate in the design, production and communication of statistics:** Statisticians should foster a greater involvement of civil society in all stages and processes of statistical production.
- **More influence means more responsibilities:** It is the duty of statisticians to explore the link between statistics, science, and society, and to lead intellectual reflections on the possible risk of over-reliance on data-centrism

Bridging the gap - Communication 4.0

"Bridging the Gap between Citizens and Official Statistics" is the title of Corine Eyraud's contribution (Eyraud 2018) to the Power from Statistics Conference in 2017. *"Citizens' growing suspicion vis-à-vis the official statistics, suspicion which would be in line with our 'post-truth' and anti-intellectualist era"* is her starting point for a rather new entrée to the question of communicating statistics. *"It can be acknowledged that statistics have regularly been used by politicians or managers (from public and private sectors) to mislead people, to justify political and economic decisions pretending them to be evidence-based, or to make them so difficult to understand that non-expert people will not be able to question the choices and decisions which are made. Hence, statistics have been part of the system of domination. The first thing to do to bridge the gap between citizens and statistics will be to stop using them in that way and for that kind of purpose."* (Eyraud 2018: p 103)

How can we best bridge the gap between the public (the 'citizen') and statisticians? Is it enough to focus on improving the communication of statistical results? Is the problem to be solved purely one of language? Or do we need to start further upstream in the sequence of processes of measurement/quantification² (design, production, communication), and address the production of

² 'However, till very recently, very few studies have questioned the figures they used, as if these figures were simply measuring a pre-existing reality. To prevent this "realist epistemology", Alain Desrosières, who is the founder of a new way of thinking about statistics, proposed to talk not about "measurement" but about "quantifying process": "The use of the verb 'to measure' is misleading because it overshadows the conventions at the foundation of quantification. The verb 'quantify', in its transitive form ('make into a number', 'put a figure on', 'numericize'), presupposes that a series of prior equivalence conventions has been developed and made explicit [...]. Measurement, strictly understood, comes afterwards [...]. From this viewpoint, quantification splits into two moments: convention and measurement.'" (Eyraud 2018: p 103)

statistics, as well as the process of knowledge creation by users? Does the communication of the future perhaps require more participation? If so, who should participate and how should this be done in practice?

In the following, some approaches will be pursued that focus primarily on mainstreaming users and their interests throughout the production process. Most importantly, however, it is a question of fostering a greater involvement of civil society; that is to say, the general public are, on the whole, somewhat distanced from official statistics and valuable statistical information, so a bridge must be built in order to overcome that distance. Providing better information to users and non-users, and being able to counter their misjudgements and prejudices with facts, is probably the part of the statistical mission that has the greatest added social value.³ According to the legacy of Hans Rosling,⁴ that mission is about education and providing information that is orientated towards the layperson. However, it should also be about co-design and co-production, through which the participation of the public in statistical results should be the aim.

Of course, the involvement of users and their interests has always played a significant role in official statistics. During the development and revision of both the statistics programme and of individual statistics, user advisory councils are consulted, scientific colloquia are organised, and, finally, legal decision-making processes are followed. The critical aspect here is that it is essentially a very narrow selection of experts and stakeholders who are involved in such consultation processes.

The dissemination of statistical information has undergone a complete transformation in recent years. This has started with the fact that the term 'dissemination' is now largely shunned, and has been replaced with 'communication'. In place of a publication programme producing a single flagship *Statistical Yearbook*, a series of individual, specialised, and very wide-ranging (printed or online) books has emerged. These are geared towards online media and have social networks as integrated distribution channels. Statistical offices commonly have an internet presence and websites prepared for diverse user groups as standard. Interactive communication tools and mobile applications facilitate access, even for the layperson.

Nevertheless, there is more to do. With reference to the still relatively young discipline of 'citizen science',⁵ we need to understand the circumstances that have led to the mistrust of the elite in Western society, and the way that statistics are (or are at least perceived to be) an instrument of both the political/administrative elite and the scientific elite. William Davies' analysis (Davies 2017) could be taken as a starting point for reflection on the challenges and opportunities brought by this rapidly changing environment. A few of his observations, all of which add up to a general mistrust of official statistics, are as follows:

- Misunderstanding the real meaning of indicators by a society with a poor level of statistical literacy can create:
 - incorrect opinions
 - which may mislead voters, or
 - compel politicians to take non-optimal measures
- Advocating the objectivity and expertise of technocrats as a better choice than the regime of demagogues/politicians is associated with the following risks:

³ See for example, Roser ((Roser 2018): *'Most of us are wrong about how the world has changed (especially those who are pessimistic about the future).'*

⁴ Hans Rosling was a physician and statistician who, with his passion and his gift for explanation, managed to portray statistics completely new ways and use completely new dimensions of communication; he died in February 2017 (<https://www.theguardian.com/global-development/2017/feb/07/hans-rosling-obituary> and <https://www.gapminder.org/>).

⁵ See Haklay (2015): *Citizen Science and Policy: A European Perspective*. (Haklay 2015)

- high-level aggregated artefacts (e.g. GDP) may be too abstract in their design and meaning for the average layperson
- ex ante/top-down classifications are out of touch with the identities of individuals
- national policies are too distant from individuals and their private spheres
- in our era of *big data*, data-driven logic (the inductive search for messages in the data) has replaced statistical logic (top-down design of classifications and variables to be surveyed)
- social network bubbles undermine the existence of facts

The public's mistrust of elites and technocrats, and their sympathy for demagogues and populists, may not seem rational⁶. Nonetheless, it is a real, international, and serious phenomenon of our current time.

What are the consequences for official statistics, if confidence in public institutions is generally shrinking, if the authority of the state and its representatives is questioned, and if facts are no longer seen as being without alternative?

The circular flow of statistical processes (design, production, communication, use) needs to be reviewed, wherever possible, aiming to bring on board both stakeholders and civil society: in their design (e.g. the early involvement of the public regarding new indicators and data platforms during their planning stages; human-centred co-design), in their production (e.g. crowd-sourcing of data; co-production) and in their communication (which should be interactive, open, accessible etc.) and in their use (by collecting evidence through market research of the use/misuse/non-use of indicators, by creating user-specific feedback loops, and by improving statistical literacy).

First and foremost in the future-orientated involvement of users is to remove the mental separation between the producers and the consumers of statistics. To do this, it is necessary to anchor the goal of involving civil society as deeply as possible in the production process. The most important thing to do is make people aware of the importance and consequences of statistics and numbers in their own lives and societies. A more far-reaching objective would aim at consumers becoming co-producers ('prosumers'); stakeholders becoming shareholders. Similar to the introduction of the primacy of existing data over new surveys in the 2000s, change needs to be achieved in a well-rehearsed and conservative-thinking sphere; patterns must be maintained by defining strategic goals. The strategic goal here is to intensify the partnership between civil society and statistics in all the stages of the latter: in the scientific and design phase, during production, and – most importantly – through communication.

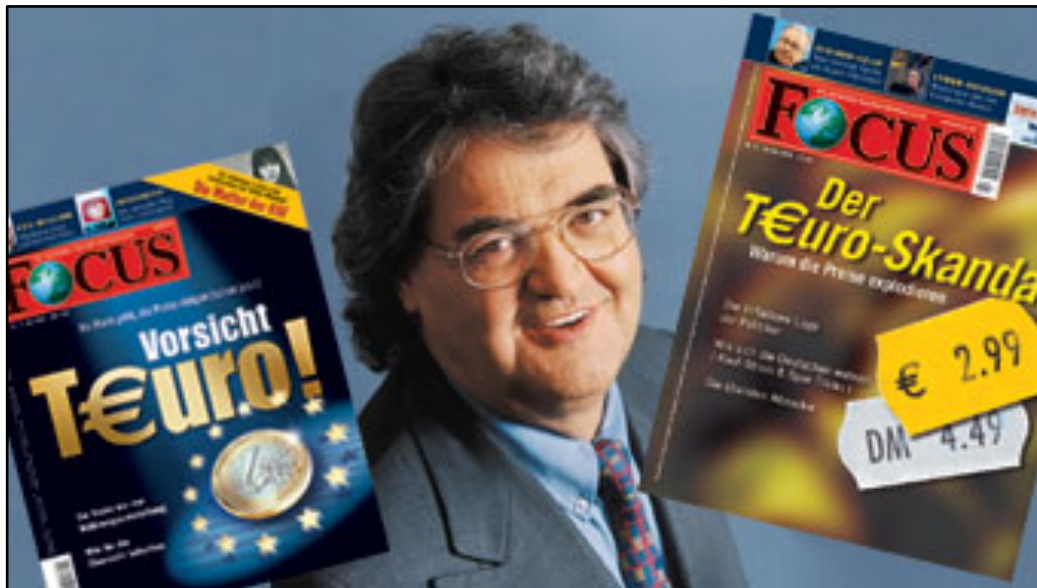
Is that not a utopia far from reality? How can you imagine that? Some examples should be enough to explain the principle:

Objective and subjective Consumer Price Index

When the new currency of the euro was introduced in 2002, many citizens felt that prices had risen sharply, as services, restaurants and retailers took the opportunity of this particular moment to make higher levels of profit by using an incorrect conversion rate. In Germany, magazines and newspapers took up the widespread impression among the population and reinforced that something was wrong with the prices. 'Teuro' is a word, created in the German-speaking world, combining the German word for expensive (*teuer*) and *Euro*, which was chosen as the word of the year by the Society for German Language in 2002.

⁶ See for example Chris Arnade's blog 'Why Trump voters are not "complete idiots"' (Arnade 2016)

Fig. 1 T€uro⁷



The anger over the high prices became a politically relevant problem. The official statistical inflation rate was felt to be inaccurate, unrealistic, and even politically biased in this context:

*‘Given the mismatch between such buying experiences and the official rate of inflation, the much-vaunted habituation to the new currency becomes a mere formula of desire. On Friday, the Federal Statistics Office announced for May a rate of inflation of 1.2 percent. In the same week Günther Hörmann of the consumer center Hamburg expected however, that a family, which needs much food, could come on an inflation rate of 15 per cent’.*⁸

Although the Federal Statistical Office commissioned a scientific study⁹ to investigate and fully uncover the causes of the discrepancy between the objective and the perceived average values of the price change, statistical institutions were placed in a very defensive position, which this scientific study alone did not help to ease. Even a broad initiative for communication and education could not change the sentiment once created and could not clear up reservations, prejudices and lack of statistical knowledge. The loss of confidence in the price index in particular, and official statistics in general, was considerable. Even today, so many years later, when talking with German citizens, one still finds the firm assumption that the inflation rate is a politically determined number.

In terms of the perspective and goal of the greatest possible participation of civil society, a question arises as to what possible measures could be taken to avoid or at least reduce the false impression of political manipulation. Would it be possible and sensible to calculate and publish a subjective price index parallel to the official consumer price index, based on the different weighting of goods in the shopping basket (e.g. higher weight for 'out-of-pocket purchases')? Moreover, would it possibly be useful to involve citizens who are actively observing prices by providing them with a digital platform to upload the data they are gathering?

⁷ Source <http://www.teuro.de/focus/focus.html>

⁸ See “Dem Teuro auf der Spur” FOCUS Magazin | Nr. 22 (2002)

https://www.focus.de/finanzen/news/wirtschaft-dem-teuro-auf-der-spur_aid_203686.html

⁹ Brachinger, *Der Euro als Teuro? Die wahrgenommene Inflation in Deutschland* (Brachinger 2005)

Transparency and participation of this kind could have the potential to reduce the perceived distance and also to allow people to learn more about the official index and its methodology. Instead of requiring blind faith in statistics, this would build trust based on experience and evidence.

Co-production of Statistics – Participatory Data

The potential of ‘big data’ arising from any possible sources is examined by official statistics. These data are generated for specific purposes or result from technical processes. In any case, the information content for statistics must first be distilled from the dataset. In this context, approaches and ideas from the field of citizen science,¹⁰ which aim at an active participation of volunteers in the collection of data, should be further examined.

This form of participatory filing and sharing of data and knowledge has gained momentum, especially in the areas of environment and sustainable development (König 2018). For example, the homepage of WeObserve states: *‘WeObserve is a Coordination and Support Action which tackles three key challenges that Citizens Observatories (COs) face: awareness, acceptability and sustainability. The project aims to improve the coordination between existing COs and related regional, European and international activities. The WeObserve mission is to create a sustainable ecosystem of COs that can systematically address these identified challenges and help to move citizen science into the mainstream’.*¹¹

Participation in indicator design

In 2010, the UK Statistics Service was commissioned to develop and publish a set of National Statistics to understand and monitor well-being. After the programme was launched with a national debate on ‘What matters to you?’, to improve understanding of what should be included in measures of the nation’s well-being, and after a discussion paper had summarised the output of this phase, an online consultation¹² was opened up to the wider public. This sought views on a proposed set of domains (aspects of national well-being) and headline indicators. The online consultation was open for participation between November 2010 and January 2011.

One of the challenges of such a process is to communicate in a plausible manner that there are ‘participatory parts’ and more ‘technical parts’. Nevertheless, such a public and open consultation can make an additional contribution to bringing the design of new indicators out of the sphere of experts and insiders by informing citizens as early as possible and taking account of their opinions.

However, one must consider that consultation fatigue may arise among the addressees. A consultation by scientific experts in the field of co-design¹³ is therefore necessary for the success of such a project.

Market research

In order to constantly develop the quality of indicators and other statistical products, it is necessary to obtain the most precise information possible about their use, misuse or non-use.¹⁴ The application of professional methods of market research should provide evidence that is important for the product design of the future.

¹⁰ 1. Principle of citizen science *Citizen science projects actively involve citizens in scientific endeavour that generates new knowledge or understanding.* https://ecsa.citizen-science.net/sites/default/files/ecsa_ten_principles_of_citizen_science.pdf

¹¹ See <https://www.weobserve.eu/> (WeObserve 2018)

¹² <http://webarchive.nationalarchives.gov.uk/20120104115644/http://www.ons.gov.uk/ons/about-ons/consultations/open-consultations/measuring-national-well-being/index.html>

¹³ (Joost and Unteidig 2015; Gericke, Eisenbart, and Waltersdorfer 2018; Hisschemöller and Cuppen 2015)

¹⁴ Lehtonen, *The multiple roles of sustainability indicators in informational governance: Between intended use and unanticipated influence* (Lehtonen, Sébastien, and Bauler 2016)

Fig. 2 Mainstreaming communication in the process chain

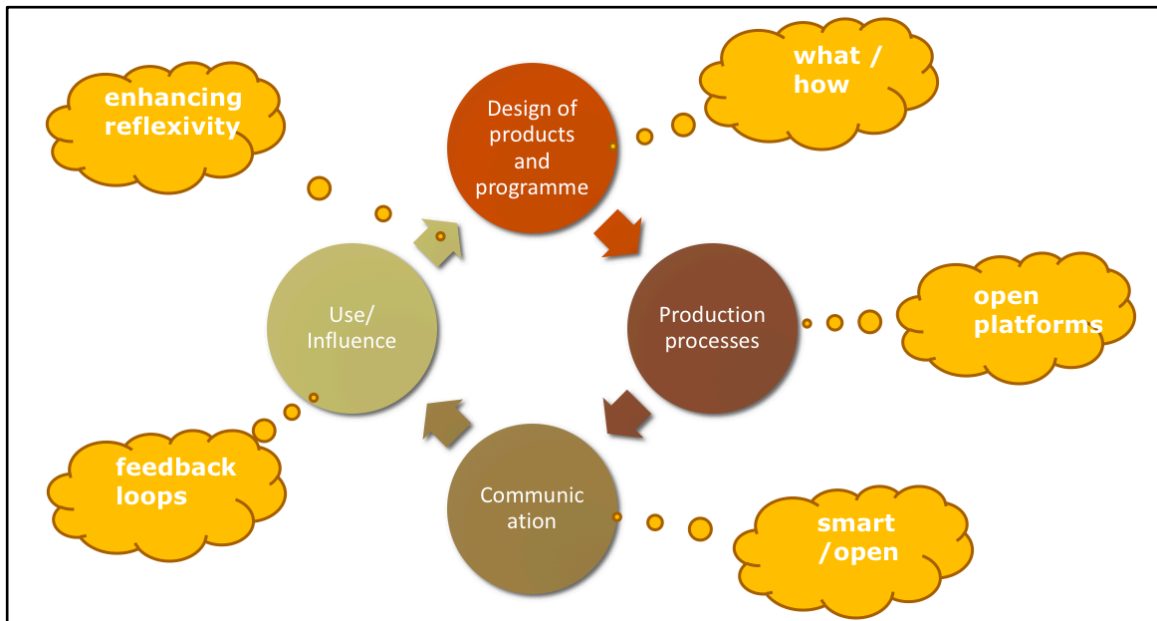


Fig. 2 gives an overview of the various approaches for strengthening the involvement of users and their interests. Although many of these approaches are not completely new, as a whole they take another step in the direction of placing official statistical analysis as a service to democracy and the people. The proposals outlined here would certainly encounter difficulties in practice. For example, an online consultation costs a great deal of money and also time, both of which may be scarce in concrete situations. The co-production of data requires trust and mutual knowledge as well as corresponding IT tools; these too may be in short supply. Overall, however, it is important to overcome these hurdles and difficulties with the aim of maintaining confidence in official statistics under more difficult conditions. The cooperation between statisticians and communication experts that has successfully developed over the past few years should therefore be complemented by cooperation with researchers in the areas of citizen science and human-centred co-design processes.¹⁵

¹⁵ For example: (Jasanoff 2003))

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