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**HOW IS THE QUALITY OF STATISTICS MANAGED AND UNDERSTOOD  
FOR A WIDER AUDIENCE?**

Invited paper submitted by Central Statistical Office Poland

**INITIAL REMARKS**

1. Each producer of goods and services is interested in having products of possibly the highest quality under conditions of acceptable production costs. This feature constitutes a decisive factor influencing the interest of consumers of goods and services of a given brand and exerts an influence on their opinion in the market. Statisticians must follow similar rules, because the quality of statistical information is crucial for success in realising the mission of official statistics. This consists of providing the user with high quality information on the economy and society which is required for decision-making, for research purposes and so that the public can evaluate the efficiency with which programmes of social and economic development are being realised [Qua2001]. In this regard all NSIs attach great significance to continuous increases in the quality of information which they disseminate to users. Attempts in this regard have been particularly strong since the beginning of the 1990s. In many statistical offices we may observe the growing awareness of the necessity to adapt a systematic approach to quality issues, which aims not only at improvement of product quality, but also the whole process of creating and disseminating information, and as a result, - the quality of the statistical system as a whole [Jap2001].

2. A focus on defining the notion of quality has been a considerable accomplishment of discussion in the community of statisticians. The starting point for such discussion was a universal definition of quality applied by the International Organisation for Standardisation (ISO) as a "totality of characteristics of an entity (a product or service) that bear on its ability

to satisfy stated or implied needs" [Int1994]. In relation to statistics, the most common definition of quality is the one proposed by Eurostat, which assesses quality according to 7 features: relevance, accuracy, timeliness, coherence, completeness, comparability, accessibility and transparency. [Nan2001]. Statisticians of some NSIs prefer to define quality with the aid of a slightly modified set of features<sup>1</sup>. It may seem that these differences are insignificant in evaluating the quality of statistical products.

3. Interest in issues concerning the quality of statistics has particularly increased in the last 10-15 years. There are a few reasons for this. It seems that the most important include:

- A significant increase in the number of real and potential users of information, both in individual countries, and on an international scale. Partially, it is related to the development of globalisation processes and developments in the dissemination of technologies, which facilitate access to information;
- The appearance, in the information market, of competition among institutions, affecting services in the field of statistical information;
- Increase in the complexity of management processes and the necessity of applying new management tools. It causes, among other things, a need for a wider use of quantitative methods in the process of programming the development and control of the implementation of adopted programmes;
- Financial limitations, which are encountered by statistical services and which force NSI to pay greater attention to efficiency and the qualitative aspects of their activity;
- Improvement in levels of education, and as a result the better preparation of citizens in the individual use of statistical information;
- More extensive and deeper democratisation processes, in economic and social life, raising the awareness of citizens in wide social circles. These tendencies lead to permanent increase in the number of people who demand a wide and free access to a differentiated range of information. In some countries the rights of citizens to access information are regulated by legal provisions of a high rank<sup>2</sup>. This aspect has a highly significant importance to the wider audience from the point of view of information quality, and therefore it presents an extremely important challenge for statistical services.

## **QUALITY OF STATISTICS – POINT OF VIEW OF THE USER**

4. All definitions of the quality of statistics, quoted in the previous section, put the point of view of the user in first place, meeting his/her needs and expectations. Orientation towards user needs also plays the most important role in the TQM approach. However, we must be aware of the fact that it is practically unattainable to fulfil the expectations of **all** users. Most statistical indices elaborated by statistical services have a universal character and reach those who make use of statistical information for different purposes and who are prepared to use the

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<sup>1</sup> For example, Statistics Sweden specialists prefer defining quality by means of 5 features: contents (relevance), accuracy, timeliness, coherence (including comparability), availability and clarity [Elv2001], and Statistics Canada - 6 features: relevance, accuracy, timeliness, accessibility, interpret-ability, coherence [Bra2001].

<sup>2</sup> For example, in Poland these rights were stipulated in the Constitution. The provisions of the Constitution establish that, a citizen has a right to obtain information about the activities of public authority bodies and people serving public functions. This right includes also receiving information about the activity of economic and professional self-government bodies and also other people and organizational units, within the scope of public authority tasks, performed by them and their management of municipal property or State Treasury Property.

information to a different degree. There are also users who are unable to define in advance which information they really need, and only after gaining access to it do they try to assess how it matches their own expectations. Therefore we must be aware that our attempts to improve the image of statistics among our recipients must be regarded as a continuous process of bringing statistical reality, created by statisticians, closer to stated and implied user needs. The definition of the quality of statistics, explicitly expressed in the wording of the ISO standard, implies that efforts to raise the quality of statistics must have the character of a permanent, never ending process, because groups of users of information constantly change and, among existing user groups, the needs and requirements of information also continuously change.

## **SURVEY OF USERS' NEEDS**

5. Statisticians, in order to consider to the utmost degree the satisfaction of users' needs in their policy of disseminating information, i.e. delivering them products of an expected quality level, must learn these needs quite thoroughly. In the practice of our office, we try to examine those needs as completely as possible before we start the designing of survey programmes for consecutive annual periods. Thanks to this we manage to avoid a considerable number of further remarks and additional orders.

6. We spend quite a lot of time on consultations with users. Consultations and discussions on annual programmes last approximately 6 months every year – from September to October of year n-2 until April – May of year n-1. These consultations are attended by about 100 institutions and organisations representing the most important groups of users of statistical information: ministries and central offices, bodies of local government and self-government administration, representatives of scientific circles and academic centres, main headquarters of trade unions, organisations of employers and social organisations.

7. A discussion takes place on the survey programme for the forthcoming year based on the detailed programme from the previous year, to which all users have access as it is printed in the Journal of Laws and made available at the CSO website.

The main purpose of these consultations is to listen to the opinions of users on the subject range of surveys, proposed by the CSO, and to consider proposals submitted in respect of particular points of the programme. In particular, answers need to be found to the following questions:

- Does the scope of previous surveys, analyses and statistical works meet the current and future information needs of state authority bodies, government and local self-government administration bodies and other users participating in the consultations;
- Which topics of surveys could be abandoned due to their low usefulness or decreased interest;
- Which survey topics, considering their stability, can be limited or surveyed with lower frequency, or surveyed with use of other methods;
- To what extent can data from administrative systems replace or enrich the current direct surveys.

8. Independently of the consultations organised by the CSO, working meetings are also organised by regional (voivodship) statistical offices. These meetings are attended by

representatives of voivodship bodies of government and local self-government administration. The task of these meetings is first of all based on transferring, by statistical services, information about methods of access to statistical information and the possibilities of realising the submitted proposals.

9. A detailed discussion on the remarks and postulates of users is first conducted through direct talks between employees of the CSO and representatives of users, who submit remarks. After these discussions, the CSO presents a detailed opinion on each proposal. If some of them cannot be accepted, we present a detailed justification and possible proposals for proceeding. Next, a draft version of the programme, together with the remarks of users and a draft of the CSO position, are discussed very thoroughly at a few consecutive sessions of the Programme and Methodology Commission<sup>3</sup>. Mutual agreement of positions on the draft survey programme is usually attainable during detailed discussions at meetings of the Commission, as is the acceptance of solutions regarding issues, which were a subject of contradictory remarks submitted by individual users. Next, a draft version of the programme, including issues which are not agreed, are discussed over a few meetings of the Statistical Council<sup>4</sup>, and next, the president of the Council presents (by the end of June for the next year) a draft of the programme to the Council of Ministers, which makes the programme effective by way of regulation.

10. Basic directions of statistical surveys and major methodological problems are also discussed by the Scientific Statistical Council<sup>5</sup>.

11. Remarks which are submitted during the programme consultations by ministries and central offices are most often related to the scope of previously conducted surveys, especially increases in their details. For example, within the scope of preparing the initial draft of the survey programme for 2005, remarks made had the following structure (see overleaf).

12. These remarks characterise user views on the quality of information which is elaborated by statistical services, and especially the rank given by users to separate features which define quality. The highest number (more than 40%) of remarks and conclusions are related to the improvement of compliance of the survey programme with users' needs (relevance), accessibility and transparency (34%) and timeliness (c. 10%). A better adjustment of the range of information to users needs (relevance) is addressed by applying a broader

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<sup>3</sup>The Programme and Methodology Commission consist of ca. 30 people. Its task is to work on the programme of statistical surveys and the coordination of preparing surveys and their methodology. Members of the Commission, which is chaired by vice-president of the CSO, are managers of the main organizational units of the CSO, responsible for statistical surveys, representatives of local statistical services and representatives of ministries and the National Bank of Poland.

<sup>4</sup>The Statistical Council – is a body, which gives opinions and advises on statistical issues. It is appointed for a period of 5 years by the President of the Council of Ministers. The Council consists of 17 persons, who represent: bodies of government administration (5), local self-governments (1), National Bank of Poland (1), social organizations, professional and economic self-government (6), trade unions (2), and experts of the social and economic sciences (2).

<sup>5</sup>Scientific Statistical Council functions by the President of the Central Statistical Office as a body, which grants opinions and advises on the methodology of statistical surveys. Members of the Board are most distinguished scientific employees in the field of statistics and econometrics, economic sciences, sociology, regional policy and other similar fields.

subject range of surveys as well as a more detailed territorial distribution and analyses by kind of activity.

Type of remarks	In percent
<b>Total</b>	<b>100</b>
Broadening the subject range of surveys	40
Limits of the scope of surveys (negative priority)	6
Changes in frequency, use of administrative sources, size of the sample, layout of questionnaires	1
Editorial remarks	34
Method of making results available (shortening deadlines, more detailed territorial distribution)	11
Others	8

13. Remarks submitted by users representing local government and self-government administration are quite different. Their remarks are mostly related to information which is important from the point of view of planning regional policy and securing data necessary for obtaining funds for development activities. This is important from the point of view of solving social problems, unemployment, poverty, social exclusion, health care, environment protection. Remarks from this group of users are mostly related to broadening the subject range of surveys (56%) and the availability of results: shortening deadlines for elaborating results in more detailed territorial sections (40%). These observations also stress a necessity to improve ways of presenting information, i.e. adjusting them so they are relevant to users needs.

14. It is worth noticing that in discussions with both the above-mentioned groups of users the subject of improving the **accuracy of information**, the most important feature of quality of information for statisticians, was not mentioned at all. This does not mean of course that users do not prioritise this attribute of quality. It just means that users think that the accuracy of statistical information, which is necessary and possible to be achieved in practice, constitutes one of the foundations of official statistics. Statistical services do not start conducting surveys if conditions for obtaining the "necessary level" of accuracy are not created. Therefore, information made available by statistical services is "accurate enough". That is why such high importance is given to continuous care in maintaining a high level of trust in the services of official statistics and avoiding things which could undermine this trust.

Therefore, it is possibly important to completely inform users about survey methods, the efforts made by statistical services in providing the maximum reliability of data, and also to inform, especially professional users who use statistical information for economic and social analyses, about all the weaknesses and limitations of particular surveys which may have an impact on correctness of conclusions stated on the basis of statistical information. This, in particular, refers to evaluating the accuracy of survey results and estimating random errors in sample surveys. There is still substantial pressure from users for data to be compiled in a detailed territorial distribution, despite the fact that the sizes of samples applied in surveys do not ensure the sufficient reliability of the results.

## **QUALITY OF STATISTICAL INFORMATION FROM THE POINT OF VIEW OF A WIDER AUDIENCE**

15. Thanks to regular cooperation with users, which was mentioned in the previous section, one can quite precisely agree with all groups of users on their needs for information. One can also become familiar with their views on the subject of the significance they attach to separate attributes information quality and, therefore, build survey programmes and information dissemination systems. Nevertheless, the point is that the whole system, characterised in the previous section, refers only to a few (albeit very important) groups of users. These groups of users can be recognised as "regular" users who systematically use information and apply it for easily definable purposes, related to functions which are realised by them.

Apart from the above-mentioned groups there is a very wide group of users which avail themselves of statistical information from time to time, "case by case" and for different purposes. In the paper, this group of users is called the "wider audience". It refers specifically to:

- A wide group of members of Gmina and city councils, local government and social workers, who are interested in developing the social and economic situation of the country and implementing the development plans of their "small homelands" (environment protection etc.);
- Small and medium size enterprises looking for information which helps them to operate in the market in a more effective way under conditions of increasing competition;
- Students, who frequently take advantage of statistical information, both for realisation of the curricula and in their participation in the social life of their own environment;
- Teachers of primary and secondary schools, who use statistical information for enriching the educational processes;
- Students of universities, especially studying economic, social studies, management etc.;
- Wider circles of the society, inhabitants of cities, towns and villages, freelance professions etc. Together, with generally broader knowledge, higher qualifications and the developing and deepening of processes connected with the creation of knowledge-based and information society, the demand for statistical information will increase.

16. Mass media and particularly the press have a special place in the group of users of statistical information. On the one hand, they use powerful tools which they have at their disposal to **transfer** information to all interested users, i.e. to regular users of statistics as well as the wider group of recipients. On the other hand, mass media are an important user of information as a requirement in conducting their own analyses, evaluations and works.

17. As one can see from the above characteristics, which are probably incomplete, the groups of users mentioned are highly diversified and it is very difficult to elaborate for them a coherent offer of information which would match the criteria of quality for all the groups to the same degree, because different users have non-uniform views on this subject. It depends on the purpose for which the information is being used, the possibility of understanding the contents of the transferred information depending on age, education level and qualifications, and even the place of living and the level of ease in accessing information sources. At the same time, however, it should be emphasised that providing access to information for the wider audience is one of the important educational tasks of statistics in society, and that the level of satisfaction of these user groups impacts, to a great extent, on the evaluation of the quality of statistics by general public .

18. Therefore, more attention than so far should be paid to this group of users. We must also be aware, as it is rightly remarked by S. Nordbotten, that as the possibilities of broad access to information increase in the era of the development of information technologies, and particularly the Internet, users become more and more mass-like and anonymous. This does not make it easier for statisticians to maintain adequate relations with them and implement the requirements of „accessibility” and „compliance with needs”. For statisticians, this situation implies the task of developing not only the forms and methods of dissemination of numerical information, but also more and more accessible descriptions of the methodology of information, and other elements of meta-information [Nor2001].

19. It is very difficult to answer the question of whether or not statistical information meets the criteria of quality from the point of view of a wider audience, for two reasons. Firstly, as mentioned above this group of users is much differentiated and for this reason it takes into account different quality criteria. After all, this group frequently does not even know about the existence of these criteria. Secondly, because this group is very numerous and it is difficult to learn their precise requirements, it is very difficult to adjust information offers in such a way that it fulfils the needs of the majority of users. We must use, therefore, various intermediary methods. Some of them can be indicated at least as:

- close contact with the press. Press conferences are organised in our office every month. Much more frequently we organise briefings and direct contacts between responsible CSO's employees and journalists, devoted to discussing the results of a particular survey's subject range. These meetings are a good opportunity to learn the opinions and postulates of the community of journalists, which often expresses not only their own needs, but also the needs and interests of a much wider group of potential users. Direct personal and telephone contacts with users who report to the central information centre and voivodship information points, which specialise in making information available to individual order;
- organising community meetings with students at schools, meetings with teachers<sup>6</sup>, and lectures by CSO employees for students of universities;
- analysis of "visits" to the CSO website and the websites of statistical offices in 16

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<sup>6</sup>For almost 30 years the CSO has been organizing a competition on the knowledge of the Concise Statistical Yearbook among school youth. For example, in the 30th competition in 2001, there were 23 thousand students participating from more than 200 schools. These competitions constitute at the same time a very good opportunity to exchange opinions and views on the subject of statistics.

voivodships.

20. Based on the above mentioned different opinions and expectations of this group of users, defined as the "wider audience", one can risk making a statement that features of quality such as coherence, comparability, and perhaps, accessibility and clarity are regarded particularly highly by this group.

21. Shorter deadlines for making information available may be highly important for certain groups of users, even for the price of getting less accurate information. Thus initial survey results are disseminated and afterwards are made more precise in the form of final results. At the same time though, another group of users does not always understand such a method of disseminating consecutive versions of data. Certainly there is a need for looking for further more efficient methods of examining the information needs of the wider audience as a group of users. Nevertheless, based on our experiences of the current co-operation with them, we can state the following, more important, conclusions:

(i) There is a need to continue putting in order the system of informing users about different sources from which they can receive necessary information in the form of printed publications, information presented through Internet, in information centres, by telephone etc. It is highly important to provide them with the access to the calendar (schedule) of information dissemination, according to deadlines, established in the annual survey programmes and to observe these deadlines.

(ii) It is highly important to disseminate to a wider group of users not only statistical indicators, but also definitions and explanations of the importance of particular indicators, descriptions of data collection methods, price systems (in case of value indicators), procedures used in calculating indicators, and explanations of the importance of similar indicators. For example, in case of price indices it is often required to comment on the meaning of monthly, quarterly or annual indices, and on the difference between the consumer price index and a harmonised price index. In case of disseminating information about the labour market, users frequently do not understand the reasons for differences between the unemployment rate registered in employment offices and the unemployment rate calculated by the CSO on the basis of labour force survey etc.<sup>7</sup>

(iii) Users expect from statisticians not only a set of indicators, but also more complex knowledge on phenomena occurring in the economy and society. They expect a wider analytical interpretation, which allows users to understand better the links between presented statistical information not only with the general economic and social situation, but also with the situation and living conditions of their closest environment, and even their households. For example, many users, including journalists, ask statisticians to widely interpret data sets related to particular categories of national accounts and the correlation between indicators (referring, for example, to GDP growth and indices of investment outlays, to explain the reasons for sustaining a high unemployment rate, despite the economic growth, expressed by the increase in GDP). At this point we touch on important issues that have been discussed by statisticians for a long time concerning the extent to which statisticians can and should be engaged in conducting statistical analyses and what character this analysis should have. It seems that for the wider audience such analysis constitutes a very important component of our information system. There would be a focus on explanations of the meaning of presented data, on commenting on relations between statistical indicators, on paying attention to issues of

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<sup>7</sup> In attempt to explain similar doubts the CSO website contains methodological explanations of the main indicators published by the CSO.



coherence between data coming from different surveys, and the compatibility between indicators. At the same time this is a very important task for statistics in its mission in the economic education of society.

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