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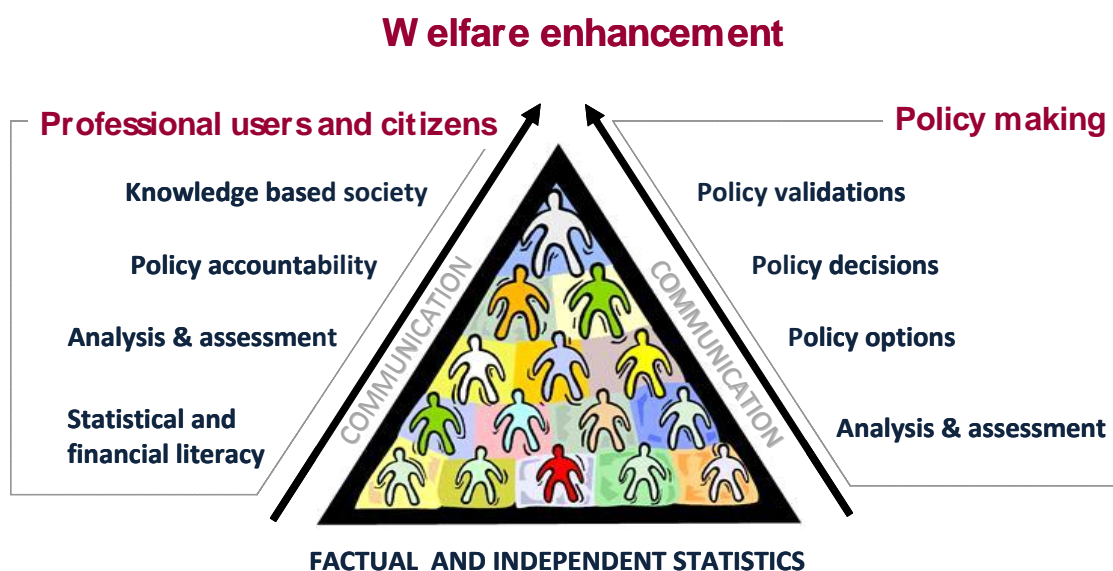
Session 1: Measuring Effectiveness of Communications

Communicating Statistics: Professional Users' Requirements for Statistics

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Communicating statistics in today's society

1. Nothing can be more important than communicating factual statistics on the structure and dynamics of our society. The world of statistics is continually challenged by its responsibility to reflect and explain in further detail complex financial, economic and social phenomena, as well as their relative importance in, and impact on, today's society.

2. Trustworthy statistics have a welfare-enhancing effect on society and constitute a knowledge base that is fundamental to sound decision-making, not only for policy makers but also for market participants, research centres, the media, academia and European citizens to contribute to and verify policy actions.

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[1] The opinions expressed in this paper are those of the author and not necessarily those of the European Central Bank (ECB) or the European System of Central Banks (ESCB).

Welfare enhancement

Professional users and citizens — Policy making

Knowledge based society — Policy validations

Policy accountability — Policy decisions

Analysis & assessment — Policy options

Statistical and financial literacy — Analysis & assessment

COMMUNICATION — COMMUNICATION

FACTUAL AND INDEPENDENT STATISTICS

3. Factual, transparent and high-quality statistics are therefore a fundamental building block in any modern society, serving, on the one hand, the political establishment in making sound policy decisions and, on the other hand, the professional users, academia and citizens in replicating analysis and assessments and contributing to enriching the general political debate. The availability and use of statistics therefore contributes to a knowledge based society which enriches the political debate and provides the basis for transparent, sound and accountable decision making serving the best interest of our society in the medium to long term.

4. The challenge for statisticians today lies in our ability to pro-actively communicate statistics in such a way that they can be well understood and used by professional users and citizens to supplement their use in policy. By enhancing the communication of statistics to the general public, statisticians can make numerous contributions to society.

Value of communicating statistics	
1.	Supporting sustainable and sound policies
2.	Assisting the acceptance process of policy decisions
3.	Enhancing the effectiveness of policy[2]
4.	Facilitating the functioning of markets
5.	Enriching the analytical contribution within society and the political debate
6.	Enhancing statistics and financial literacy
7.	Fostering a knowledge-based society
8.	Building up positive reputation
9.	Increasing welfare in society

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[2] Gnan *et al*. (2007), *Economic and financial education: concepts, goals and measurement*, argue various enhancing effects of communicating monetary policy to the public.

5. Acknowledging the benefits of communicating statistics, the institutions responsible for providing statistics have a natural self-interest in proactively communicating and in ensuring that their statistics are used and well understood by policy makers, professional users and the general public. It is widely agreed that fostering transparency with regard to monetary policy decisions and their underlying motivations contributes to an efficient and effective transmission of these decisions throughout the economy. For instance, the general public is more likely to accept policy decisions if the statistics underpinning those decisions are understandable, easily available and easily applied in their economic context. In this way, statisticians foster transparency and clarity and contribute to building trust in today's society as a whole.

6. Against this background, statisticians have the responsibility to proactively contribute to the fulfilment of this important communication task and to ensure that the statistics – as well as the stories and messages surrounding them – are well understood by and easily available to professional users and citizens in general. Due to the global importance of statistics, the statistician's role includes the responsibility of providing easy access to statistics[3] and assisting users in applying the statistics. As part of this, statisticians face the challenge of understanding the environment wherein users operate, the function they perform in society, their needs for specific statistics and how to best ensure that these statistics are easily integrated within their working processes.

What challenges do users face in accessing and using statistics in today's society

7. The table below provides a summary overview of the six main barriers for accessing and using statistics and the corresponding challenges statisticians have in overcoming these communicating challenges.

The challenges faced by statisticians in communicating statistics in today's society[4,5]

	Barriers for using statistics	The challenges faced by statisticians in communicating statistics
1	Too much information available	How do we avoid overload of publicly available information with its negative impact in a social context? How do we select and present relevant and tailored statistics to users? Continuously releasing volumes of statistics in an external database adds to the complexity in assessing and distinguishing information.
2	Cannot understand the information	How do we communicate in a language and form that is easily understood by, and presented to, a lay audience? How do we explain statistics in common language that is easily understood by policy makers and laypersons?
3	Do not know if the information	How do we facilitate the search for information and promote the

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3   Liebscher, K. and Schubert, A. (2008), "Torn between New Data Needs and Respondents' Fatigue. Are Efficiency Gains the Philosopher's Stone?", Statistiken Q3/08, Vienna, August, available at http://www.oenb.at.

4   P. Nymand-Andersen, Communicating central banking statistics: Making useful sense of statistics in a dynamic world, IFI Conference, Dublin, August 2011.

5   Global Development Research Center

	exists	available statistics? How do we follow developments in society for making statistics more used? For instance, Internet users use search engines to find information/statistics, as an alternative to navigating through websites. How do we communicate to users where the quality statistics exists?
4	Do not know where to find the information	How do we serve the users by providing good quality statistics and assisting them in finding the relevant statistics? Here the challenge is to overcome the release of an enormous volume of statistics from large databases and to guide users towards, and pinpoint, the relevant statistics. How do we actively reach out to users with relevant and tailor-made statistics?
5	Cannot access the information	How do we simplify and overcome technical and knowledge barriers to accessing statistics? How do we provide statistics via multiple channels and in multiple forms, to provide easy access to statistics for different user segments within society? We release bulk volumes of statistics. How can we assist users in finding the (right) needle in the haystack?
6	Do not know if the information is accurate and from a trusted source	Here the statisticians should have a competitive advantage. They have the ability, with their unique statistical knowledge and know-how, to guide and assist the users in accessing relevant, appropriate and good quality statistics, as part of the process of crowding out bad quality statistics in society

8. These communication challenges should not be seen in isolation, but rather in terms of how they relate to the business processes of users and the way they search for statistics. Nevertheless, and surprisingly, statisticians have little evidence available on a systematic basis about their external users, their businesses and their working methods in managing and using statistics. This is a paradox, as we statisticians take significant pride in the accuracy of our statistics and in ensuring their reliability and comparability. Yet we have little information about our users' backgrounds and in many cases communication strategies are based on guesstimates and non-empirical views. There is therefore a clear call for statisticians to launch initiatives for systematically measuring, tracking and interacting with their core external users.

Measuring the requirements of professional users – Knowing our users

9. Against this background, the European Central Bank (ECB), supported by the Statistics Committee's Task Force on Accessibility, initiated three preliminary surveys in order to start collecting information about user needs and recommendations for facilitating the use of statistics.

10. The first survey was conducted by interviewing the user segment "journalists/media", which is identified as one of the core market segments. Interviews were carried out targeting ECB specialised journalists – journalists who are frequently reporting, monitoring, following and using statistics from the European System of Central Banks (ESCB), which includes the ECB and central banks of the EU member states – to better understand their needs for statistics and their business and working processes. The interviews were conducted together with students from the

University of Applied Science in Frankfurt am Main and generated a set of suggestions on how ESCB statistics can be made more easily available and reported by the journalist community. The journalists interviewed were from international newspapers, such as Financial Times, and from the electronic wire services, such as Bloomberg News, and demonstrated significantly different user needs and working processes. The results of these interviews lead to *fifteen independent recommendations* presented in the table below.

Overview of the fifteen recommendations from the market segment "Journalists"

Communication initiatives ▶ Recommendations from journalists

15 recommendations

• Overview of statistics & core statistics	• Forecast statistics	• Workshops & training with media, contacts
• Euro & national statistics in one source	• Facilitate the re-distribution of statistics	• Notification and alerts
• Euro area with other geographic areas	• Press releases together with statistics	• Select, point, view and print series on screen
• Chart and facts of the week	• Statistics in context (high/low)	• User friendly and interactive web-sites
• Use common language	• Select data and charts from ECB publications	• Search engine

For each of these fifteen recommendations a significant detailed assessment of the users' needs has been done, three of which are extracted and highlighted below.

Recommendations from journalists

Recommendation 7 • Facilitate the re-distribution of statistics

➢ Facilitate and foster the re-distribution of official statistics by data vendors

➢ Data vendors are re-distribution multipliers of (official) statistics and reach financial intermediaries globally

➢ Provide tools and functionalities which are familiar to and daily used by market analysts and financial researchers

➢ Ability of users to compare statistics from multiple sources and select data and graphs within few "clicks"

➢ Large and high frequency volumes ("machine to machine" communication facility and code mapping/translations)

Recommendations from journalists

| Recommendation 8 | • Press releases – include facility to select related statistics from press releases |

➢ Easy access to statistics and historical series

➢ Easy for users to explore a statistics story: ability to compare latest statistics with earlier values – is there a story to report this month ?

➢ Easy to find additional related statistics for further explorations

➢ Implementation of hyperlinks to relevant underlying statistics

➢ Ability to easily compare corresponding national contributions to the euro area statistics (see also recommendation 2)

Recommendations from journalists

| Recommendation 10 | • Select data and charts from ECB publications |

➢ The ability to replicate the charts and graphs used in the ECB publications

➢ The ability to easily use the underlying statistics series of the charts/graphs and statistics used in ECB publications

➢ The ability to easily provide further historical statistics of the statistics published in publications

➢ Provide the statistics via links from the electronic publications

11. The fifteen recommendations are core and essential for the journalist community and would require the application of new thinking about the statistical function in fulfilling these essential professional user needs.

12. The second survey was conducted by asking external users visiting the ECB website for their views and ideas. Several open questions were posed, enabling respondents to provide suggestions and recommendations for functionalities which they knew and used from other national and international organisations.

13. Examining the high-level results from the user surveys, it became clear that the external users of the Euro area and national statistics are professional users mainly centred on the (i) media; (ii) financial market and bank analysts/advisers; (iii) researchers; (iv) commercial data vendors; (v) advisers to external policy makers, and (vi) academia. Due to the nature of the statistical responsibility of the Eurosystem, few respondents appeared from the household sector.

14. Therefore the first important finding is that the external users have a professional purpose in using the statistics and have expressed more than *300 barriers and proposals* for improving the accessibility and usability of E(S)CB statistics.

These proposals can broadly be categorised in eight (large) blocks of functionalities related to

   (i)   selecting, viewing and extracting relevant statistics;

   (ii)   the ability to slice, dice and download user-selected statistics;

   (iii)   the ability to replicate ECB graphs/charts from articles and ECB publications and use these in own professional work;

   (iv)   combining selective E(S)CB and national statistics series and time dimensions with other data sources/geographical areas;

   (v)   downloading facility to automatically retrieve large volumes of statistics;

   (vi)   graphics tools to obtain an overview of the characteristics of the statistics

   (vii)   glossaries, guidelines and definitions

   (viii) a residual category including facilities to simplify the "understanding", "search" and "find" statistics.

15. A third survey targeted statisticians working within the ESCB and other international organisations. Over 250 statisticians responded, giving their views on the core barriers and recommendations for facilitating the use of statistics. The respondents also provided links to other websites that, according to their view, provide statistics in a user-friendly and easily accessible way. The result of this survey significantly amplified the eight blocks of functionalities as mentioned above.

International statisticians' suggestions for facilitating the accessibility of statistics.

Acknowledging the communities of users and their environment.

16. The level of information available about users has reached new sophistication with Web 2.0 technology. Statisticians can now access user-provided profiles and use this information to offer services tailored to focused user segments. An ultimate aim is to build a sense of community between statistical providers and their users. This remains valid also for international organisations.

17. In 2011 the McKinsey Global Institute argued that organisations which are able to harness data in very large quantities will gain advantage over their less able competitors[6]. Corporations like Google and Walmart[7] gather increasingly sophisticated statistical information about their users, which leads to new innovations in communication as a supplier of tailored, added-value services to specific users groups with the aim at creating loyalty and generating marginal revenues. The new IPO of Facebook, with a total value of 104 billion USD, indicates the value of detailed information about millions of households – though one can naturally discuss the astronomic nominal value and the performance of the IPO.

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[6] http://www.mckinsey.com/mgi/publications/big_data/index.asp.

[7] For instance, Walmart, a retail giant, handles more than 1 million customer transactions every hour, feeding databases estimated as holding more than 2.5 petabytes.

18. Furthermore, research into why users participate in communities like *Wikipedia* reveal that people are more likely to contribute where they:

   a) are using knowledge they have;

   b) gain recognition for their contribution(s); and

   c) feel that they are contributing to a project that serves the greater good.

19. This notion of community is used in communication strategies to engage users. Using this notion, communication of statistics can therefore be defined as a "***proactive two-way transmission process where factual and relevant information in context on the structure and dynamics of our economies is exchanged, understood and easily used by user segments***". With this definition, the interchange of information is best communicated when a discussion is available so the receiver can get involved and pose suggestions and questions and receive feed-back potentially clarifying the message and/or providing more detailed knowledge to users.

20. Communication of statistics is therefore a ***significantly broader concept*** and should not be confused with disseminating static data in an external database or within a hard copy publication. Communication of statistics involves ***understanding user needs*** and ***reaching out to the multiple users groups by providing and facilitating the access to and usage of relevant statistics in its context using familiar language and terms***. This means that (modern) communication involves a two-way process, ***engaging users in proactively using, re-distributing and contributing*** to the analytical use of statistics as part of contributing to enhancing the welfare in our society.

Looking forward

21. It is clear from the literature, and from examination of the current barriers and trends in our democracies, that communication of statistics should be **two-way communication.** Statistics need to be proactively communicated by engaging the core user segments in understanding, using, re-distributing and actively building standard procedures to integrate statistics within their respective professional endeavours. In the same vein, statisticians need to step up their communication policies and significantly prioritize the statistical communication function by working together with users and other statisticians to enhance the tools and functionalities needed for supporting external users.

22. The continuous changes occurring within our societies cannot be neglected and need to be embraced within a statistics communication strategy.

23. In particular there exist:

   (i)   significant barriers for external users in accessing, understanding and using statistics;

   (ii) an exponential increase in the availability of statistics and information from public and private sources which may lead to information overload with its associated risks;

(iii)   an increasing use of web-based technologies and functionalities;

(iv)   changes in user patterns and a willingness of professional users to engage in statistics;

(v)   a growing gap between current communication and the way which a new generation of users access and use statistics, whereby a "one-size–fits-all" communication strategy will only have marginal impact, if any;

(vi)   a need to launch initiatives for systematically identifying, knowing and interacting with the professional core user segments and to start engaging integrating statistics in users daily business; and

(vii)   a need to focus on enhancing the trust in statistics within our democracies.

24. It should also be acknowledged that new approaches are needed for implementing a statistics communication strategy, whereby an optimal mix of resources and efforts are utilised, building on synergies among the statistics community. This is in particular needed considering current budget and resource constraints. Such cooperation among the statistics community could take different shapes. For instance, significant statistics knowledge, know-how and web-site functionality already exist within the community which could, with minimal effort, be adjusted and applied to other statistics organisations. This would require a "list of best practices" of self-contained functionalities that already exist within the statistics community which could be maintained by the originator and shared with other statistics organisations.

25. This would have several advantages in particular relating to time-to-market, reducing development & maintenance costs and associated resource commitments and needed skill sets within the statistics community.

26. It is also demanding for the statistics community to continuously follow and maintain the high level of expertise needed in various emerging and competing market standards, associated software packages and skill-sets – though open source and sharing of functionalities is increasing in use, thereby breaking down barriers and/or building bridges between market standards. Therefore the above-mentioned sharing concept needs to be supplemented with a common partnership with private sparring partners – driven by business needs and functionality. Building partnership with private companies and other statistical agents will provide synergies across the statistics community, paving the way to economies of scale – saving costs and resources for individual partners while adding user-friendly functionalities.

27. Examples of such partnerships should be further developed. For example:

a.   Co-operating with the Google and similar companies to automatically include and update statistics within web-data platforms such as *Google Public Data* (using SDMX technology which is used by the statistics community);

b.   Co-operating with graphics companies (for instance Gallup, as is being done by OECD) to facilitate the inclusion of statistics in OECD publications

c. Co-operating with BBC (radio channels) for explaining statistics;

d. Building partnerships using "open source" technologies can be a sustainability solution as the developments is shared by external contributors;

e. Producing joint articles with the press for presenting international statistics; and

f. Co-operating with software development entities for visualisation and representing statistics.