ESS approach to quality – The revised Code of Practice and the new Quality Assurance Framework

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Content

Major European quality initiatives

The European Statistics Code of Practice

Revision of the European Statistics Code of Practice

The Quality Assurance Framework of the ESS

The 4th level: Process-specific quality assurance

Quality reporting

Quality assurance in Eurostat, quality assessments

Summary

Major European Quality Initiatives

The European Conferences on Quality 2001 – 12 –

European Statistics Code of Practice 2005

New European Statistical Law 2009

Sponsorship on Quality 2009 – 2011
- Theme I: Revised the Code of Practice
- Theme II: Developed the Quality Assurance Framework
- Theme III: Made recommendations on quality reporting (communicating quality)

Communication 211
- "Towards robust quality management for European Statistics" in 2011 (preventive quality management, revision of the Statistical Law)
- Commitments of Confidence in Statistics

Commission Communication "Towards robust quality management for European Statistics"

- **Need for**
  - **reinforcing the legal framework and**
  - **progressively move from a corrective to a preventive approach in the quality management for European statistics**
- The aim:
  - address the weaknesses (gained from experience in the recent years)
  - raise the quality of European Statistics in general.

The communication builds on an existing governance framework and proposed 2 action lines

"Towards robust quality management for European Statistics" (cont'd)

Action line 1: further strengthen the governance of EU Statistical System

- reinforce the implementation of the European Statistics CoP by proposing amendments to Statistical Law regulation

- the principle of professional independence of NSIs applies unconditionally.

- the mandate of NSIs for data collection when data are available in administrative sources.

- implementation of "Commitment on Confidence in statistics" – allowing for a stronger CoP incorporation in the Statistical Law

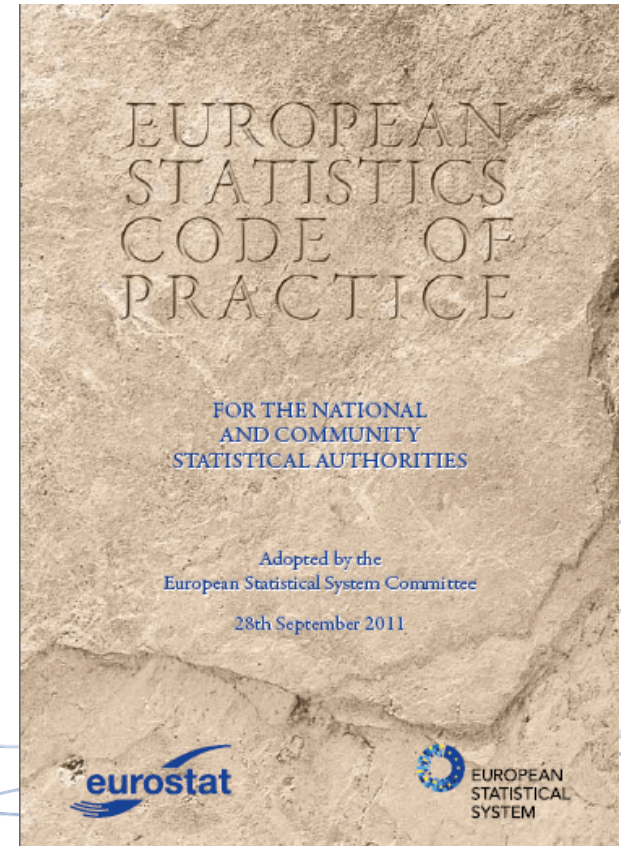Minimum standards are applicable to all statistical domains.

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"Towards robust quality management for European Statistics" (cont'd)

Action Line 2: Preventative approach to verifying government finance (the EDP) statistics.

- assess quality of upstream (primary) statistics and
- continue assessing quality of translation of the primary data to ESA standards
- promote standardisation in public accounts
- wider, proactive management of risk assessment
- corrective measures
- Eurostat additional powers to operate a system or regular monitoring and verification of upstream public finance statistics.

Code of Practice and its implementation

- Aim

- Example

- Compliance

- Recent changes

- New indicators

- Publication

- Quality assurance framework
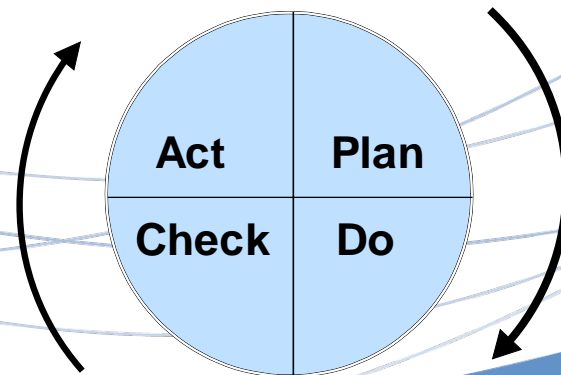
- Process-specific quality assurance

EUROPEAN STATISTICS CODE OF PRACTICE

FOR THE NATIONAL AND COMMUNITY STATISTICAL AUTHORITIES

Adopted by the European Statistical System Committee

28th September 2011

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EUROPEAN STATISTICAL SYSTEM

The European Statistics Code of Practice

Covers most issues in the original 2001 Quality Declaration

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Institutional environment  →  Statistical processes  →  Statistical output  →  Users
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General quality management principles referred to in the Preamble

– Commitment of leadership
– Partnership
– Staff satisfaction
– Continuous improvement

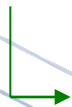| Act	Plan
Check	Do

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Code of Practice – the aim

- Sets the standards for developing, producing and publishing European statistics

- Self-regulatory

- 15 Principles cover the standards applicable to
  - Institutional environment
  - Statistical processes
  - Statistical outputs

- For each Principle, there are Indicators showing how compliance can be demonstrated

Code of Practice – example

Principle 8

Appropriate statistical procedures, implemented from data collection to data validation, underpin quality statistics

Indicator 8.6

Revisions follow standard, well-established and transparent procedures

Code of Practice – compliance

- National self-assessments in 2005

- External peer reviews in 2007-2008

- Annual monitoring and reporting (Eurostat and ESGAB)

- Next round of peer reviews envisaged in 2013

Code of Practice – recent changes

- Revised by the Sponsorship on Quality in 2011 (Theme I)

- Reinforced references in the Code to quality management, professional independence and administrative data

- 2001 Quality Declaration as a preamble: ESS Vision, mission and reference to general quality management principles

- Alignment with Statistical Law and the ECB Statistical Quality Framework

- Some editorial changes

- Nine new indicators

Code of Practice – new indicators (1)

- Rules for appointing and dismissing the head of an NSI (1.8)

- Quality policy and quality management (4.1)

- Advance notice of major revisions (6.6)

- Use of administrative data sources (8.7, 8.8, 8.9)

- Linking data (9.6)

- Standardisation (10.4)

- Indicator 15.6 split into 2 (15.6, 15.7)

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Code of Practice – new indicators (2)

Rules for appointing and dismissing the head of an NSI:

- **indicator 1.8** concerns the **appointment and dismissal** of the heads of statistical authorities. These should take place independently from political circumstances.

Indicator 1.8: The appointment of the heads of the National Statistical Institutes and Eurostat and, where appropriate, of other statistical authorities, is based on professional competence only. The reasons on the basis of which the incumbency can be terminated are specified in the legal framework. These cannot include reasons compromising professional or scientific independence.

Code of Practice – new indicators (3)

Quality policy and management:

■ **Principle 4** (**Commitment to quality**) and its indicators have been reformulated. The indicators now focus on quality policy and procedures and not on the quality of statistics as such.

Principle 4: Commitment to Quality. Statistical authorities are committed to quality. They systematically and regularly identify strengths and weaknesses to continuously improve process and product quality.

Indicator 4.1: Quality policy is defined and made available to the public. An organizational structure and tools are in place to deal with quality management.

Code of Practice – new indicators (4)

Advance notice of major revisions

- Indicator 6.6 to give **advance notice of major revisions** in methodology.

Indicator 6.6: Advance notice is given on major revisions or changes in methodologies.

Code of Practice – new indicators (5)

Use of administrative sources

- Indicators 8.7 – 8.9 – to enhance the mandate of statistical authorities for collection of data from available administrative records by clarifying their role in the design of the content of administrative records and the quality requirements applicable to administrative data

Indicator 8.7: Statistical authorities are involved in the design of administrative data in order to make administrative data more suitable for statistical purposes.

Indicator 8.8: Agreements are made with owners of administrative data which set out their shared commitment to the use of these data for statistical purposes.

Indicator 8.9: Statistical authorities cooperate with owners of administrative data in assuring data quality.

Code of Practice – new indicators (6)

Data linking

■ Indicator 9.6 to promote measures that enable linking of data sources to reduce reporting burden

Code of Practice – new indicators (7)

Standardisation

- **Indicator 10.4** concerns **standardisation**.

Indicator 10.4: Statistical authorities promote and implement standardized solutions that increase effectiveness and efficiency.

Information about quality of statistics:

- **Indicator 15.7** has been added as a separate indicator to increase importance of informing users about the quality of statistical outputs..

Indicator 15.7: Users are kept informed about the quality of statistical outputs with respect to the quality criteria for European Statistics.

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Code of Practice – new indicators (8)

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Indicator 10.4: Statistical authorities promote and implement standardized solutions that increase effectiveness and efficiency.

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Code of Practice – publication

■ Eurostat website now updated

http://epp.eurostat.ec.europa.eu/portal/page/portal/quality/documents/KS-32-11-995-EN-C.pdf

■ Leaflets published

The Quality Assurance Framework

Quality Assurance Framework
- a third level

Level 1 = Principles (standards)

Level 2 = Indicators (how the standards can be demonstrated)

Level 3 = Quality Assurance Framework (what methods and tools can be used)

Quality Assurance Framework - example

Principle 8

Appropriate statistical procedures, implemented from data collection to data validation, underpin quality statistics

Indicator 8.6

Revisions follow standard, well-established and transparent procedures

Quality Assurance Framework - example

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Indicator 8.6

Revisions follow standard, well-established and transparent procedures

Methods of implementation

- Guidelines on revision of published statistics exist, are applied and made known to users
- Revisions accompanied by explanations made available to users
- Quality indicators on revisions are calculated and published

Quality Assurance Framework
- across all statistical domains

- Developed by the ESSC Task Force "Sponsorship on Quality" (Theme II)

- Focused on CoP Principles 4 and 7-15 but not part of the CoP

- Provides methods and tools at an institutional and process level

- Provides links to relevant reference documentation

- Provides guidance to compliance assessors

- Draft version, to be refined further by the Working Group on Quality

- Does not address process-specific issues…

Quality Assurance Framework
- a fourth level

Level 1 = Principles (standards)

Level 2 = Indicators (how the standards can be demonstrated)

Level 3 = Quality Assurance Framework (what methods and tools can be used)

Level 4 = Process-specific quality assurance, adapted to the needs of the process (e.g. certification)

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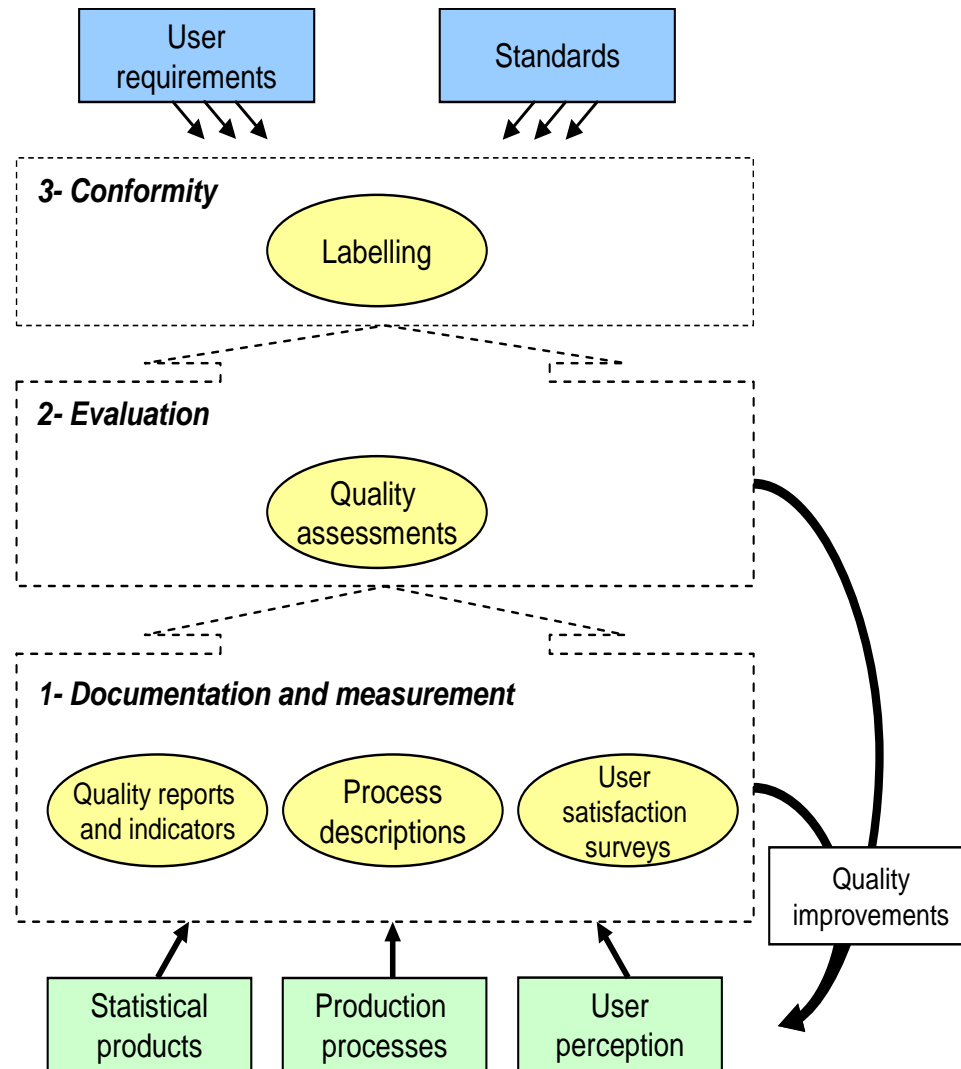
Quality reporting (Theme III)

Review of ESS recommendations and requirements on quality reporting

- Distinction of producer and user oriented quality reports
- Single metadata structure to be used to derive both (new Task Force created)
- Methodological Manual to be prepared to support the structure and the template (also included in the work of the TF)
- Use of common ESS IT tools
- User oriented reports to be disseminated to the wide audience while producer oriented ones to the producers
- Regular interaction with the target groups

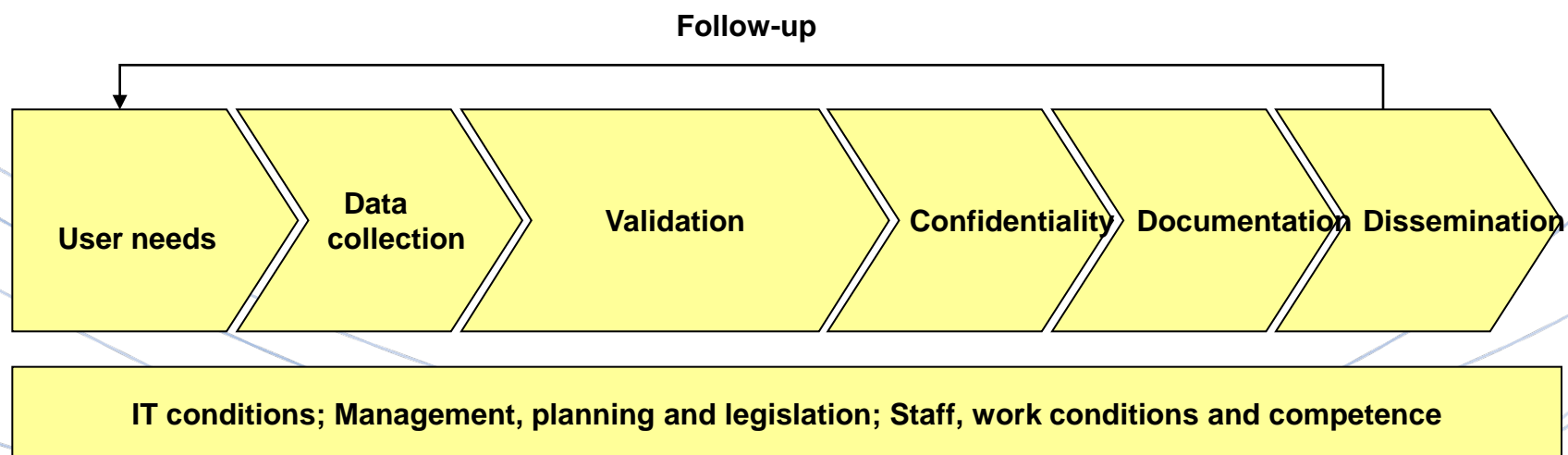Review of the content of quality reports, including quality indicators (separate task force)

Implementation of websites declaring compliance with the CoP

Quality assurance in Eurostat
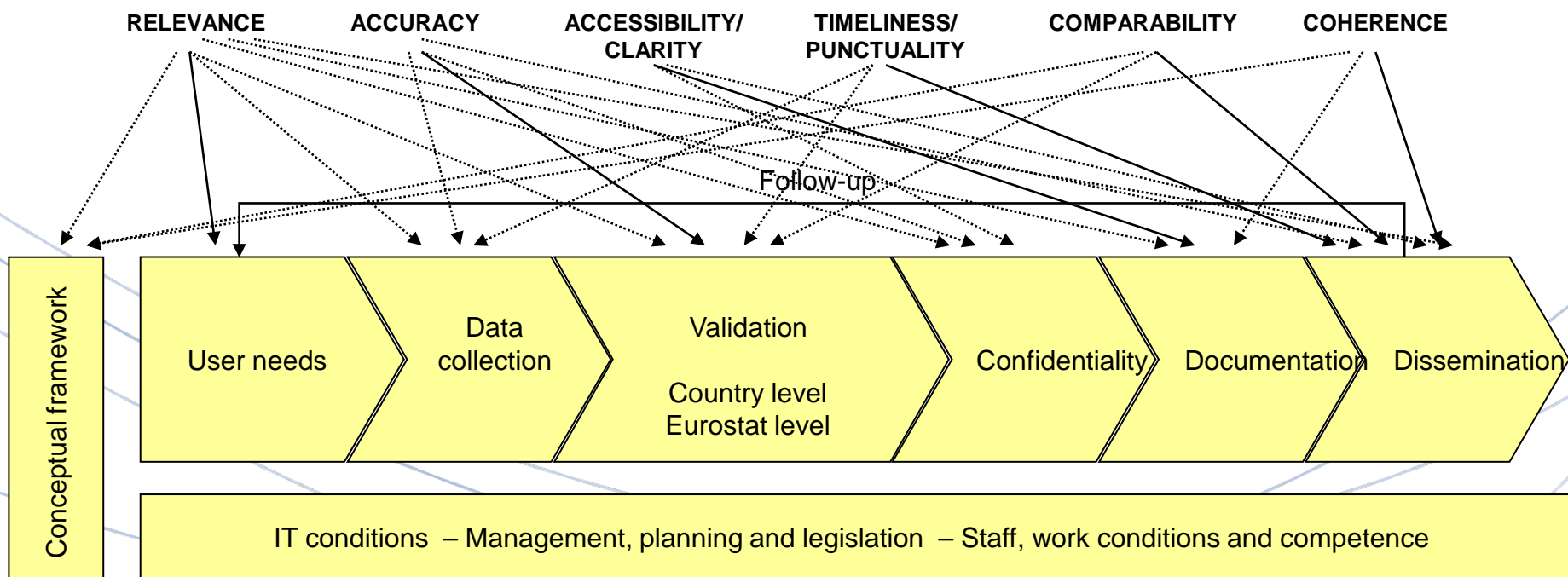
What is a quality assessment?

A systematic review and evaluation of all stages of a statistical process with the use of a standard Assessment Checklist
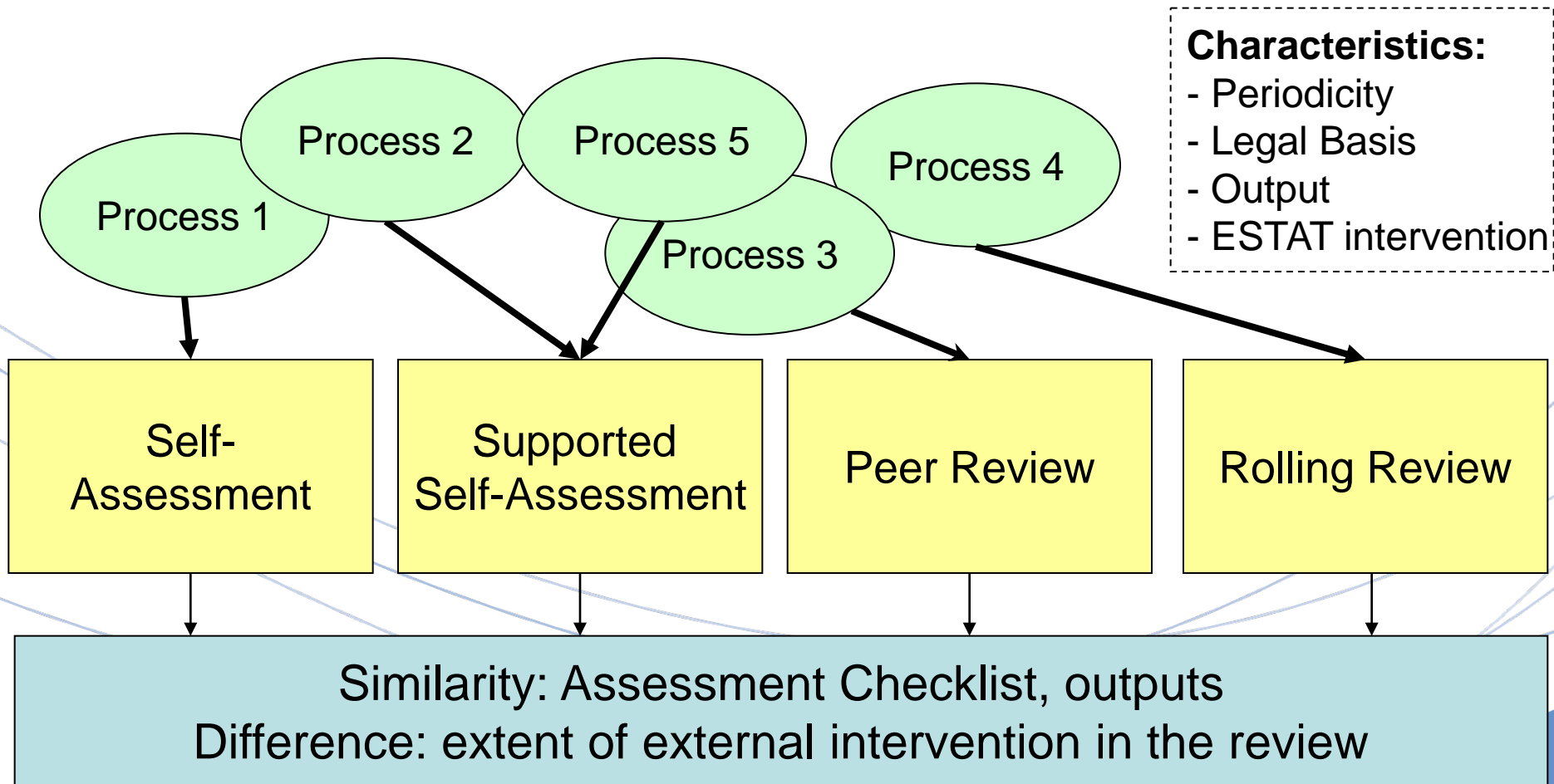
Follow-up

| User needs | Data collection | Validation | Confidentiality | Documentation | Dissemination |

IT conditions; Management, planning and legislation; Staff, work conditions and competence

Why do we look at the processes?

- **The product quality is the quality of the output**
  - Six quality dimensions: relevance, accuracy, timeliness and punctuality, accessibility and clarity, comparability, and coherence

- **However, output quality is generated by the underlying process**
  - Improving process quality is key

Relationship between process and output quality

RELEVANCE   ACCURACY   ACCESSIBILITY/ CLARITY   TIMELINESS/ PUNCTUALITY   COMPARABILITY   COHERENCE

Follow-up

Conceptual framework

User needs   Data collection   Validation

Country level
Eurostat level

Confidentiality   Documentation   Dissemination

IT conditions – Management, planning and legislation – Staff, work conditions and competence

Categories of Eurostat assessments

Process 1

Process 2

Process 5

Process 3

Process 4

Characteristics:
- Periodicity
- Legal Basis
- Output
- ESTAT intervention

Self-Assessment	Supported Self-Assessment	Peer Review	Rolling Review

Similarity: Assessment Checklist, outputs
Difference: extent of external intervention in the review

The Assessment Checklist

3.8   Please assess the key users' overall satisfaction with the statistics produced (indicate below how the users' satisfaction was assessed):

[5] Very good .... ☐
[4] Good .... ☐
[3] Satisfactory .... ☐
[2] Poor .... ☐
[1] Very poor .... ☐
[0] Not assessed .... ☐
Not relevant .... ☐

Arguments for scoring:

3.9   Do you have information about the satisfaction of other than key users?

Yes .... ☐
Partly .... ☐
No .... ☐

Comments:

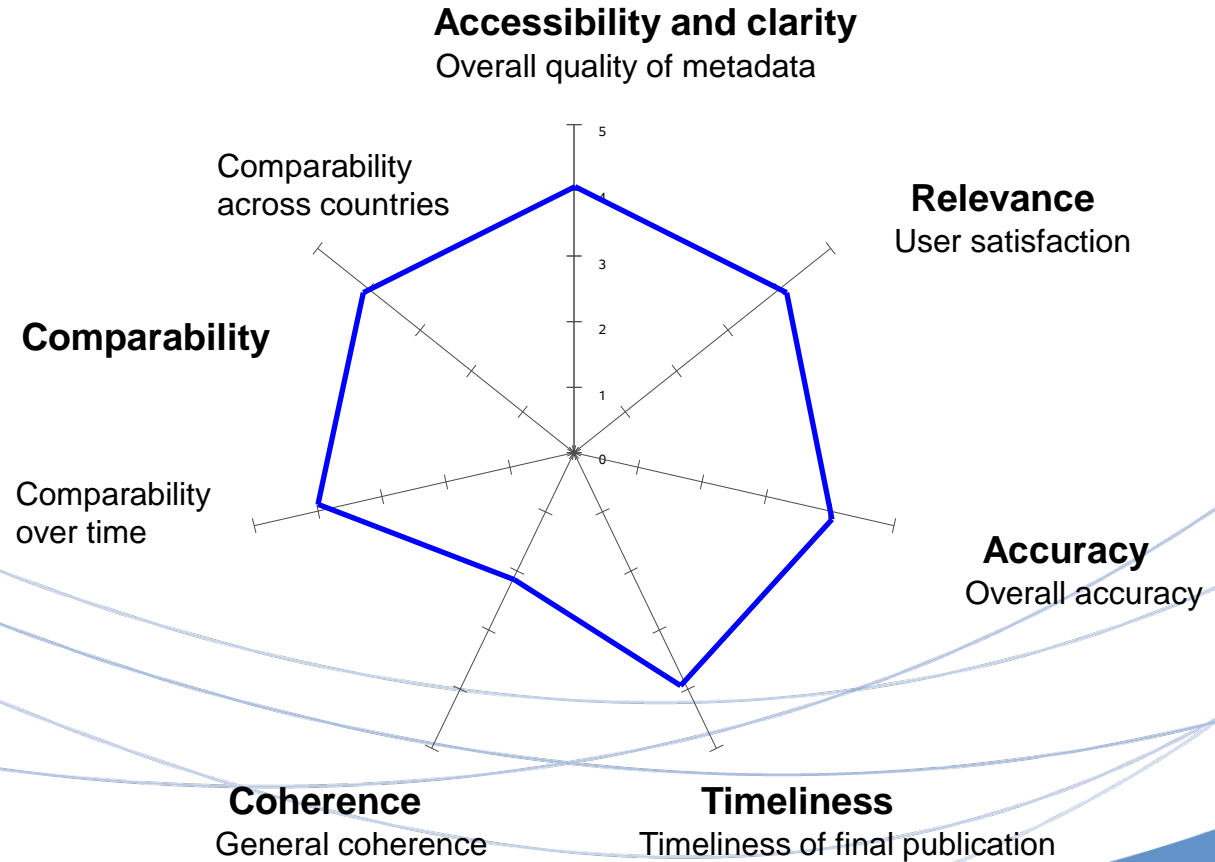3.10   What are the main problems experienced in relation to users/customers?

Assessment Outputs (1)

Summary Assessment Report

	Principal strengths	Principal weaknesses	Recommendations regarding improvement			
			Action	Ownership	Timeline[1]	Status[2]
Validation (country level)	• High completeness of data and metadata received from the countries (regular quality reports including information on the levels of non-response, imputations, cvs, etc) • Regularly updated ESTAT methodological guidelines for the data collection	• Varying level of information provided by the countries in quality reports • Medium and high level of non-response	• Improve the completeness of country quality reports	• Unit F.3	• Medium-term	
			• Promote the countries' actions towards achieving the effective sample sizes	• Unit F.3	• Medium-term	
Validation (STAT level)	• Comprehensive data validation system. Very-well developed and user-friendly SAS applications (also shared with the countries for data treatment on their level) (good practice) • Continuous development of innovative methods of data analysis (i.e. outlier detection, indicator validation, etc) (good practice) • Good overall accuracy of the published statistics (acceptable level of the coefficients of variation,	• Limited evaluation of the imputation method used for the EU aggregates • No assessment of the potential imputation bias	• Establish an imputation procedure for EU aggregates	• Unit F.3	• Short-term	
			• Obtain the indication of the potential imputation bias	• Unit F.3	• Medium-term	

Assessment Outputs (2)

Assessment Diagram

Accessibility and clarity
Overall quality of metadata

Relevance
User satisfaction

Comparability across countries

Comparability

Comparability over time

Accuracy
Overall accuracy

Coherence
General coherence

Timeliness
Timeliness of final publication

Assessment Outputs (3)

Highlight of good practices across the organisation

Overview of the exercise, current issues

- Follow-up meetings take place two years after the assessments

- Continuous monitoring of the implementation of improvement actions, identified both at process and organisational level

- Horizontal issues addressed at institutional level

- Around 90% of the 130 statistical processes of Eurostat has been assessed

- The evaluation report of the 4-year exercise has been drafted and is being discussed/approved

Summary

- The Code of Practice has been revised and is now in force

- The ESS Quality Assurance Framework will soon provide practical guidance on the implementation of the Code

- Both are applicable across the statistical authority

- Quality reporting issues are taken forward by a specific Task Force in 2012

- Process-specific quality management approaches can be considered as a further level of quality assurance

- Quality assessments are monitoring tools that contribute to the quality improvement of statistical processes and outputs

Thank You

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