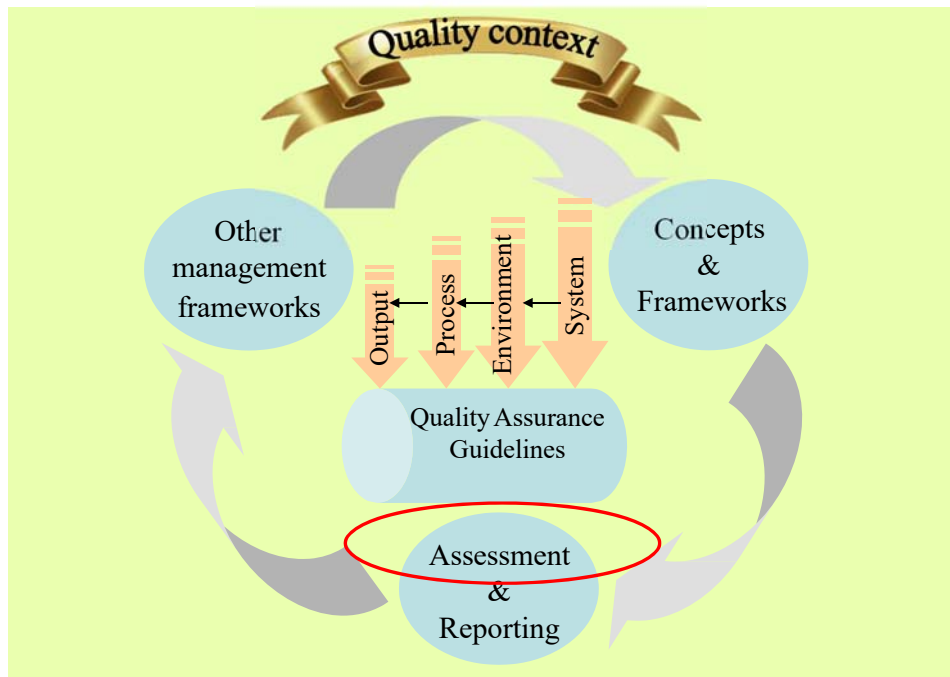# Quality Indicators in the GSPBM

Source: Quality Indicators for the Generic Statistical Business Process Model (GSPBM)- For Statistics derived from Surveys and Administrative Data Sources (Version 2.0, October 2017)

Quality indicators are needed …

Basic assessment …

Quality indicators have to be identified (or developed) in order to measure the compliance with the respective quality principles and requirements.

Establish indicators for assessing the statistical business process and output by linking to the GSBPM (and GAMSO)

3

Overarching Processes							
Specify Needs	**Design**	**Build**	**Collect**	**Process**	**Analyse**	**Disseminate**	**Evaluate**
1.1 Identify needs	2.1 Design outputs	3.1 Reuse or Build collection instrument	4.1 Create frame & select sample	5.1 Integrate data	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Gather evaluation inputs
1.2 Consult & confirm needs	2.2 Design variable descriptions	3.2 Reuse or Build processing & analysis components	4.2 Set up collection	5.2 Classify and code	6.2 Validate outputs	7.2 Produce dissemination products	8.2 Conduct evaluation
1.3 Establish output objectives	2.3 Design Collection	3.3 Reuse or build dissemination components	4.3 Run collection	5.3 Review and validate	6.3 Interpret & explain outputs	7.3 Manage release of dissemination products	8.3 Agree on an action plan
1.4 Identify concepts	2.4 Design frame & sample	3.4 Configure workflows	4.4 Finalise collection	5.4 Edit & impute	6.4 Apply disclosure control	7.4 Promote dissemination products	
1.5 Check data availability	2.5 Design processing & analysis	3.5 Test production system		5.5 Derive new variables & units	6.5 Finalise outputs	7.5 Manage user support	
1.6 Prepare and submit business case	2.6 Design production systems & workflow	3.6 Test statistical business		5.6 Calculate weights			
		3.7 Finalise production system		5.7 Calculate aggregates			
				5.8 Finalise data files			

GSPBM Ver 5.1 January 2019

Quality Dimensions in the GSBPM

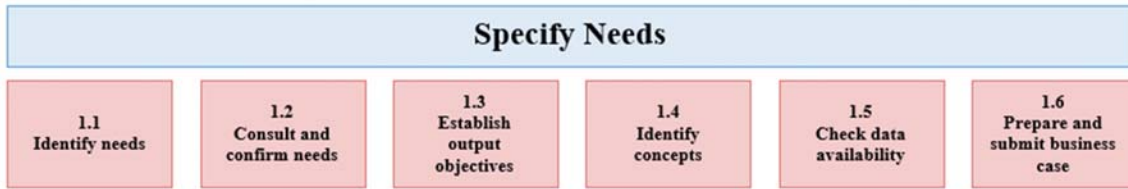- Accuracy and reliability
- Accessibility and clarity
- Adequacy of resources
- Coherence and comparability
- Cost effectiveness
- Managing metadata
- Managing respondent burden
- Methodological soundness

- Output quality
- Quality Commitment
- Relevance
- Statistical confidentiality and security
- Soundness of implementation
- Timeliness and punctuality
- Transparency

Examples

Sub-processes

Slide 7

Specify Needs

| 1.1 Identify needs | 1.2 Consult and confirm needs | 1.3 Establish output objectives | 1.4 Identify concepts | 1.5 Check data availability | 1.6 Prepare and submit business case |

- Accuracy and reliability
- Adequacy of resources
- Cost effectiveness
- Relevance
- Statistical confidentiality and security

Slide 8

Specify Needs

| 1.1 Identify needs | 1.2 Consult and confirm needs | 1.3 Establish output objectives | 1.4 Identify concepts | 1.5 Check data availability | 1.6 Prepare and submit business case |
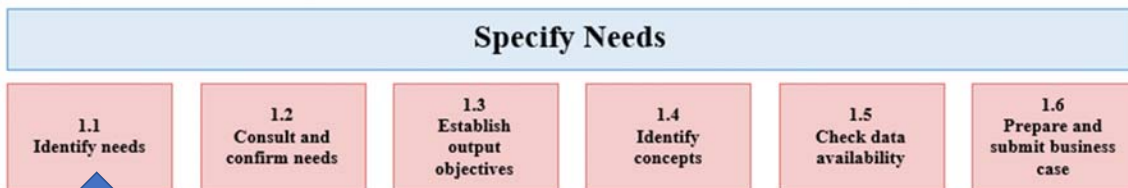
Quality Dimension	Indicator
Relevance	• To what extent have stakeholders been identified and included in discussions about statistical needs? • To what extent has relevant supporting documentation been gathered?

Specify Needs

1.1 Identify needs	1.2 Consult and confirm needs	1.3 Establish output objectives	1.4 Identify concepts	1.5 Check data availability	1.6 Prepare and submit business case

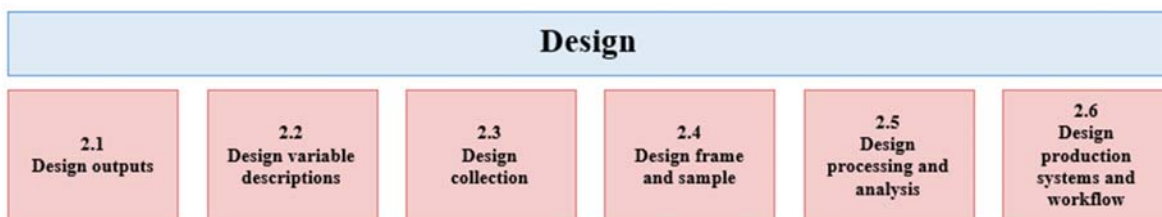| Quality Dimension	Indicator
Statistical confidentiality and security	To what extent have legal constraints regarding statistical outputs been considered, for example but not limited to ensuring confidentiality of data and preventing the disclosure of sensitive information?
Accuracy and reliability	To what extent are the proposed outputs and their quality measures suitable to user needs?
Adequacy of resources	To what extent have resource requirements for the proposed outputs and their quality measures been considered?

9

Specify Needs

1.1 Identify needs	1.2 Consult and confirm needs	1.3 Establish output objectives	1.4 Identify concepts	1.5 Check data availability	1.6 Prepare and submit business case

Quality Dimension	Indicator
Statistical confidentiality and security	?
Relevance	?
Accuracy and reliability	?
Cost effectiveness	?

10

Design

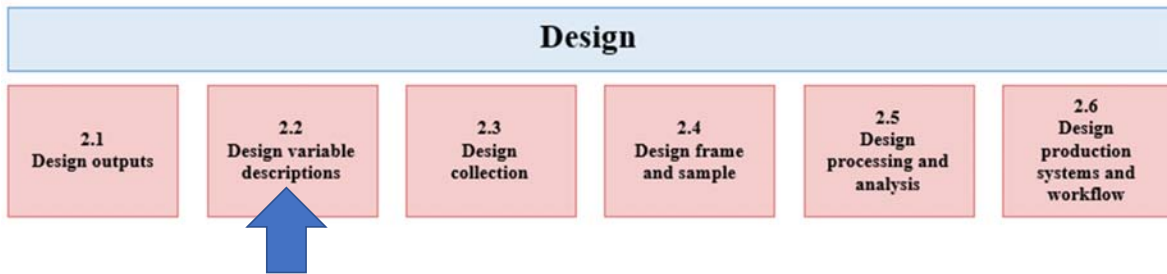| 2.1 Design outputs | 2.2 Design variable descriptions | 2.3 Design collection | 2.4 Design frame and sample | 2.5 Design processing and analysis | 2.6 Design production systems and workflow |

- Accuracy and reliability
- Accessibility and clarity
- Adequacy of resources
- Coherence and comparability
- Cost effectiveness
- Managing metadata
- Managing respondent burden

- Methodological soundness
- Relevance
- Statistical confidentiality and security
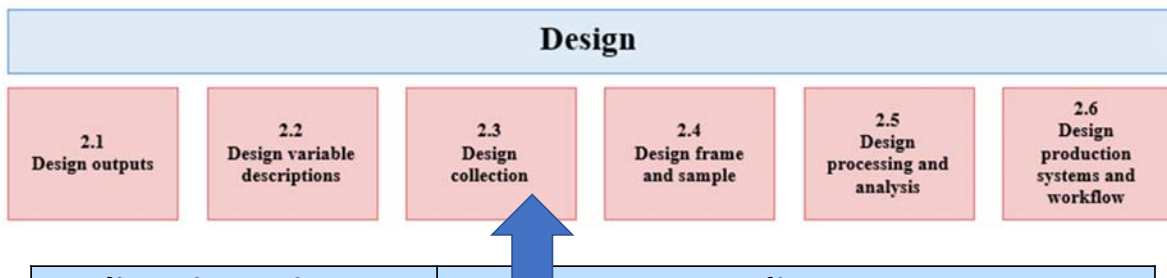- Soundness of implementation
- Timeliness and punctuality

Design

| 2.1 Design outputs | 2.2 Design variable descriptions | 2.3 Design collection | 2.4 Design frame and sample | 2.5 Design processing and analysis | 2.6 Design production systems and workflow |

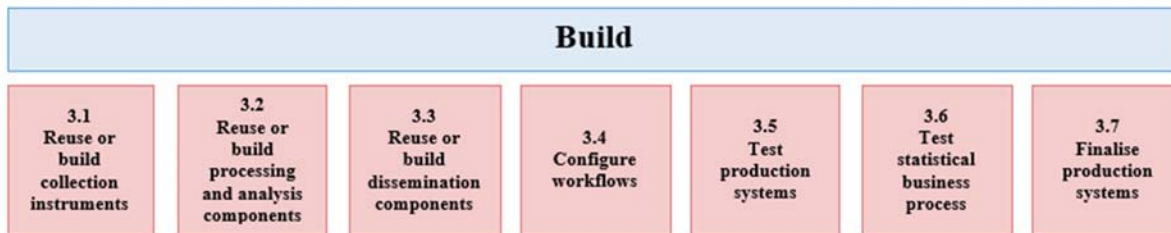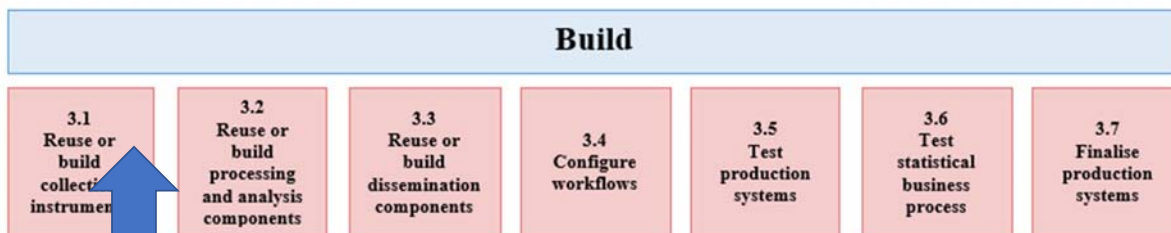| Quality Dimension	Indicator
Statistical confidentiality and security	Have the confidentiality rules and micro data access procedures been designed?
Relevance	Percentage of/extent to which outputs fulfil users' needs
Coherence and comparability	Expected length of comparable time series
Accuracy and reliability	Data revisions are planned

Design

2.1 Design outputs	2.2 Design variable descriptions	2.3 Design collection	2.4 Design frame and sample	2.5 Design processing and analysis	2.6 Design production systems and workflow

Quality Dimension	Indicator
Cost effectiveness	Percentage of/ Extent to which concepts, definitions and classifications associated to (key) variables and populations, are re- used from other similar surveys and ADS
Managing metadata	• Percentage of/Extent to which concepts, definitions and classifications associated to (key) variables and populations follow international and national standards • Percentage of metadata adequately archived

Design

2.1 Design outputs	2.2 Design variable descriptions	2.3 Design collection	2.4 Design frame and sample	2.5 Design processing and analysis	2.6 Design production systems and workflow

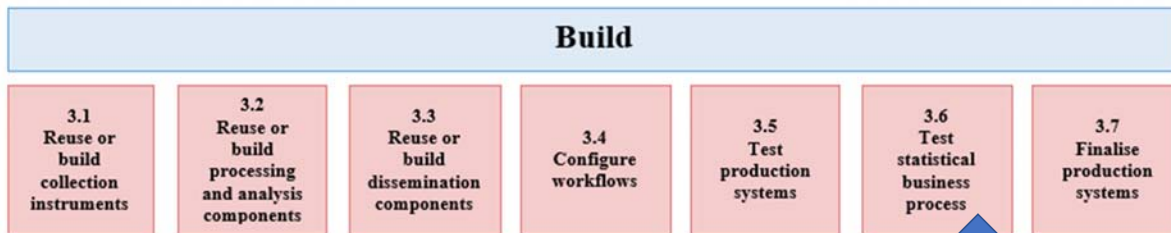| Quality Dimension	Indicator
Soundness of implementation	Is the process re-using known methods and collection systems, e.g. according to guidelines/recommendations?
Soundness of implementation	Extent to which administrative data collection systems/interfaces are understood and specified.
Managing respondent burden	Percentage of questions used to collect information which will not be published (and motivation).

Build

3.1 Reuse or build collection instruments	3.2 Reuse or build processing and analysis components	3.3 Reuse or build dissemination components	3.4 Configure workflows	3.5 Test production systems	3.6 Test statistical business process	3.7 Finalise production systems

- Accuracy and reliability
- Cost effectiveness
- Managing metadata
- Managing respondent burden
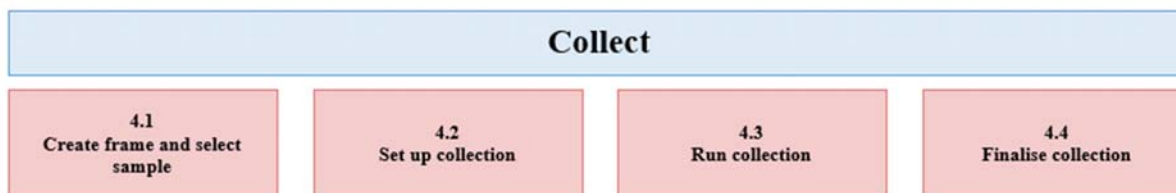- Soundness of implementation
- Timeliness and punctuality

Build

3.1 Reuse or build collecti... instrumen...	3.2 Reuse or build processing and analysis components	3.3 Reuse or build dissemination components	3.4 Configure workflows	3.5 Test production systems	3.6 Test statistical business process	3.7 Finalise production systems

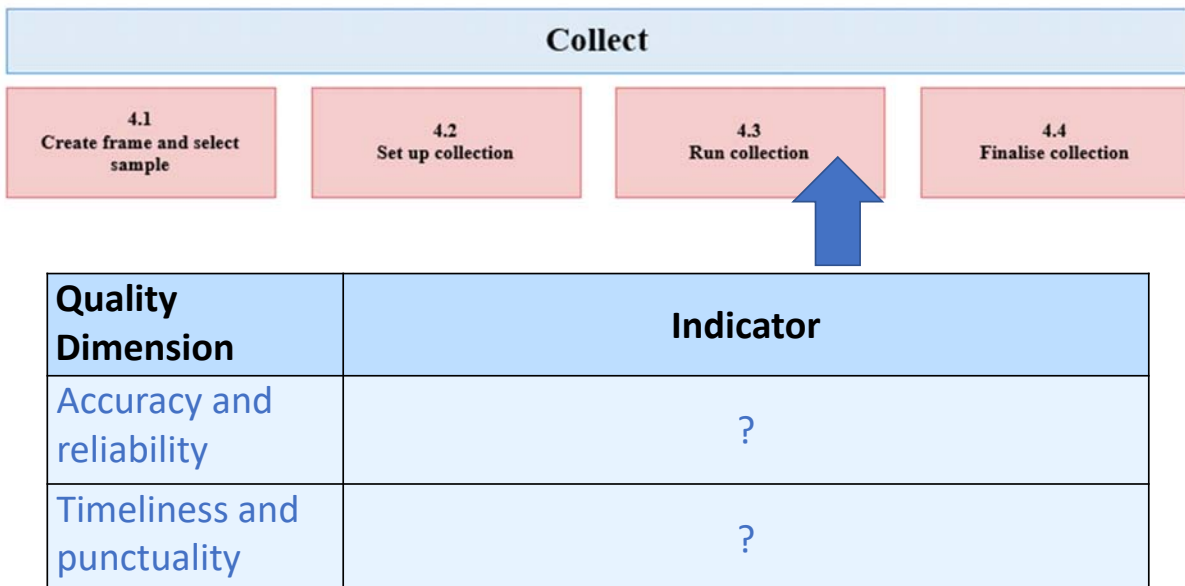| Quality Dimension	Indicator
Soundness of implementation	• Has the questionnaire been tested … ? • Have the test results been taken into account in the final questionnaire? • Have administrative data collection systems/interfaces been tested and how?
Managing respondent burden	• Estimated response time • ?
Managing metadata	• Do collection instruments capture what is needed to create variables agreed on in design phase?

Build

3.1 Reuse or build collection instruments	3.2 Reuse or build processing and analysis components	3.3 Reuse or build dissemination components	3.4 Configure workflows	3.5 Test production systems	3.6 Test statistical business process	3.7 Finalise production systems

Quality Dimension	Indicator
Cost effectiveness	Estimated costs for producing and disseminating outputs and divergences from planned costs in design process
Accuracy and reliability	• Pilot has been carried out and results taken into account in final implementation • ?

17

Collect

4.1 Create frame and select sample	4.2 Set up collection	4.3 Run collection	4.4 Finalise collection

- Accessibility and clarity
- Accuracy and reliability
- Adequacy of resources
- Cost effectiveness
- Managing respondent burden
- Statistical confidentiality and security
- Soundness of implementation
- Timeliness and punctuality

18

Collect

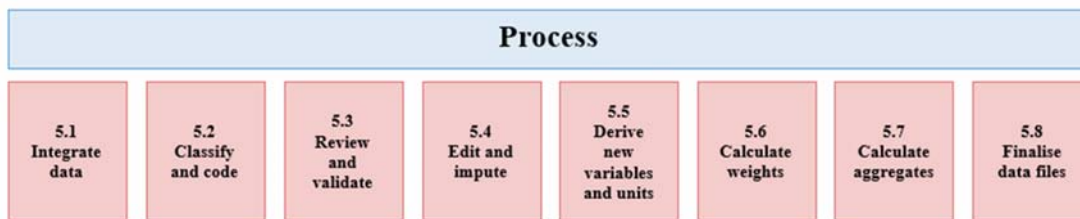| 4.1 Create frame and select sample | 4.2 Set up collection | 4.3 Run collection | 4.4 Finalise collection |

Quality Dimension	Indicator
Adequacy of resources	• Rate of HR requirements fulfilled • Rate of IT requirements fulfilled • Success rate for collection staff to perform collection tasks after training
Statistical confidentiality and security	Risk of a security breach while data is being transferred
Timeliness and punctuality	Delay between expected and actual sign- off of collection systems (including data transmission, security, collection management systems, and quality control systems) (survey and ADS)

Collect

| 4.1 Create frame and select sample | 4.2 Set up collection | 4.3 Run collection | 4.4 Finalise collection |

Quality Dimension	Indicator
Accuracy and reliability	?
Timeliness and punctuality	?

Process

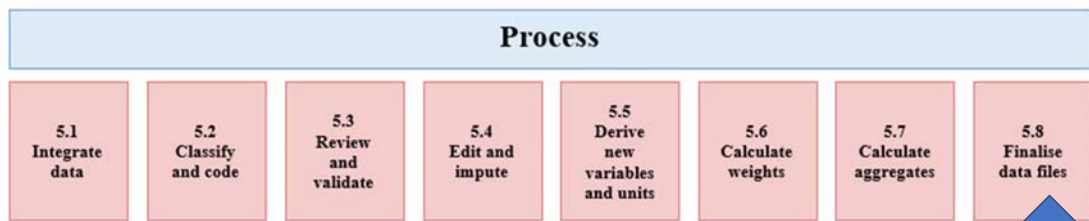| 5.1 Integrate data	5.2 Classify and code	5.3 Review and validate	5.4 Edit and impute	5.5 Derive new variables and units	5.6 Calculate weights	5.7 Calculate aggregates	5.8 Finalise data files

- Accuracy and reliability
- Coherence and comparability
- Methodological soundness
- Timeliness and punctuality

Process

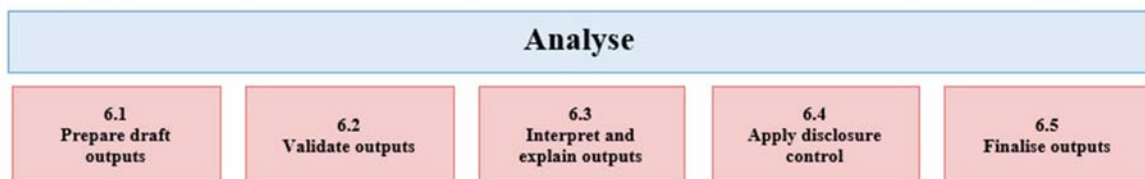| 5.1 Integrate data	5.2 Classify and code	5.3 Review and validate	5.4 Edit and impute	5.5 Derive new variables and units	5.6 Calculate weights	5.7 Calculate aggregates	5.8 Finalise data files

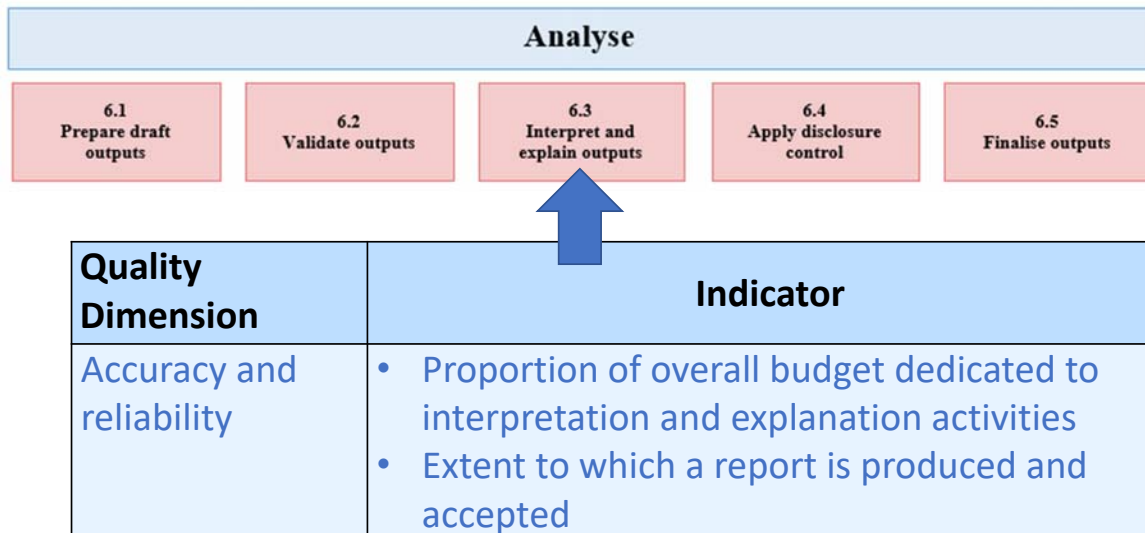| Quality Dimension	Indicator
Accuracy and reliability	• Extent to which administrative data was used to create population benchmarks • Extent to which administrative data provided auxiliary information for estimators • Extent to which administrative data was used for revision

Process

5.1 Integrate data	5.2 Classify and code	5.3 Review and validate	5.4 Edit and impute	5.5 Derive new variables and units	5.6 Calculate weights	5.7 Calculate aggregates	5.8 Finalise data files

Quality Dimension	Indicator
Timeliness and punctuality	Delay between expected and actual finalized data file

Analyse

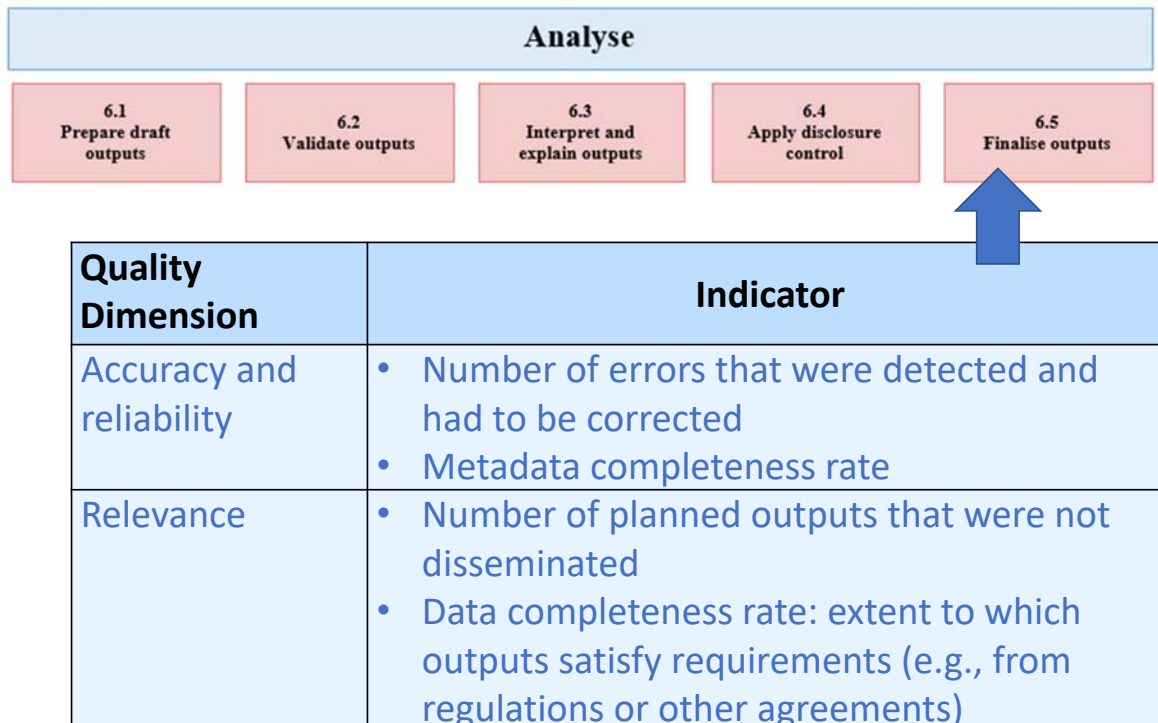| 6.1 Prepare draft outputs	6.2 Validate outputs	6.3 Interpret and explain outputs	6.4 Apply disclosure control	6.5 Finalise outputs

- Accuracy and reliability
- Coherence and comparability
- Relevance
- Soundness of implementation
- Statistical confidentiality and security
- Timeliness and punctuality

Analyse

6.1 Prepare draft outputs	6.2 Validate outputs	6.3 Interpret and explain outputs	6.4 Apply disclosure control	6.5 Finalise outputs

Quality Dimension	Indicator
Accuracy and reliability	• Proportion of overall budget dedicated to interpretation and explanation activities • Extent to which a report is produced and accepted

Analyse

6.1 Prepare draft outputs	6.2 Validate outputs	6.3 Interpret and explain outputs	6.4 Apply disclosure control	6.5 Finalise outputs

Quality Dimension	Indicator
Accuracy and reliability	• Number of errors that were detected and had to be corrected • Metadata completeness rate
Relevance	• Number of planned outputs that were not disseminated • Data completeness rate: extent to which outputs satisfy requirements (e.g., from regulations or other agreements)

Disseminate

7.1 Update output systems	7.2 Produce dissemination products	7.3 Manage release of dissemination products	7.4 Promote dissemination products	7.5 Manage user support

- Accessibility and clarity
- Coherence and comparability
- Impartiality and objectivity
- Managing metadata
- Quality commitment
- Relevance
- Statistical confidentiality and security
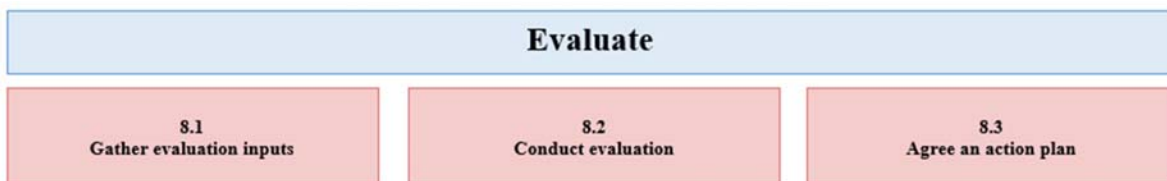- Timeliness and punctuality
- Transparency

Disseminate

7.1 Update output systems	7.2 Produce dissemination products	7.3 Manage release of dissemination products	7.4 Promote dissemination products	7.5 Manage user support

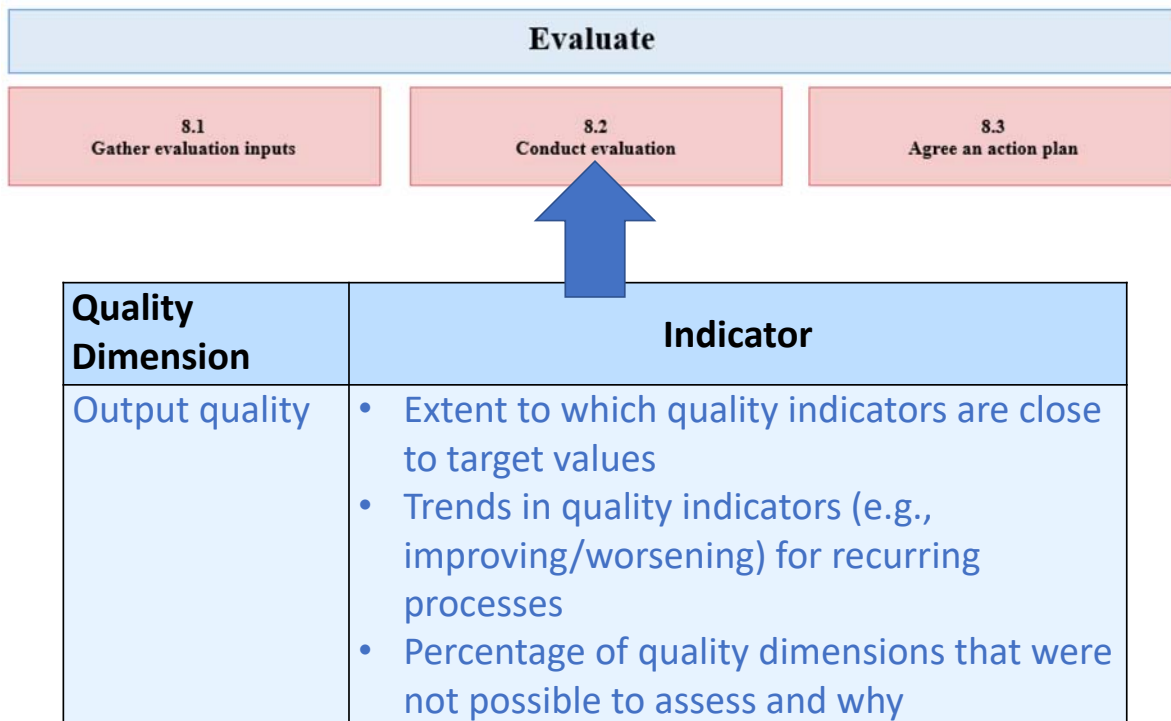| Quality Dimension	Indicator
Impartiality and objectivity	• Availability and accessibility of revision policy? • Time lag between the release of an output and announcement of the error to users
Transparency	Number of press meetings held before and after the release of the outputs
Timeliness and punctuality	• Punctuality of statistical outputs: actual release date vs target release date • Time lag- first/final results: reference period date vs publication of first/final result

Disseminate

7.1 Update output systems	7.2 Produce dissemination products	7.3 Manage release of dissemination products	7.4 Promote dissemination products	7.5 Manage user support

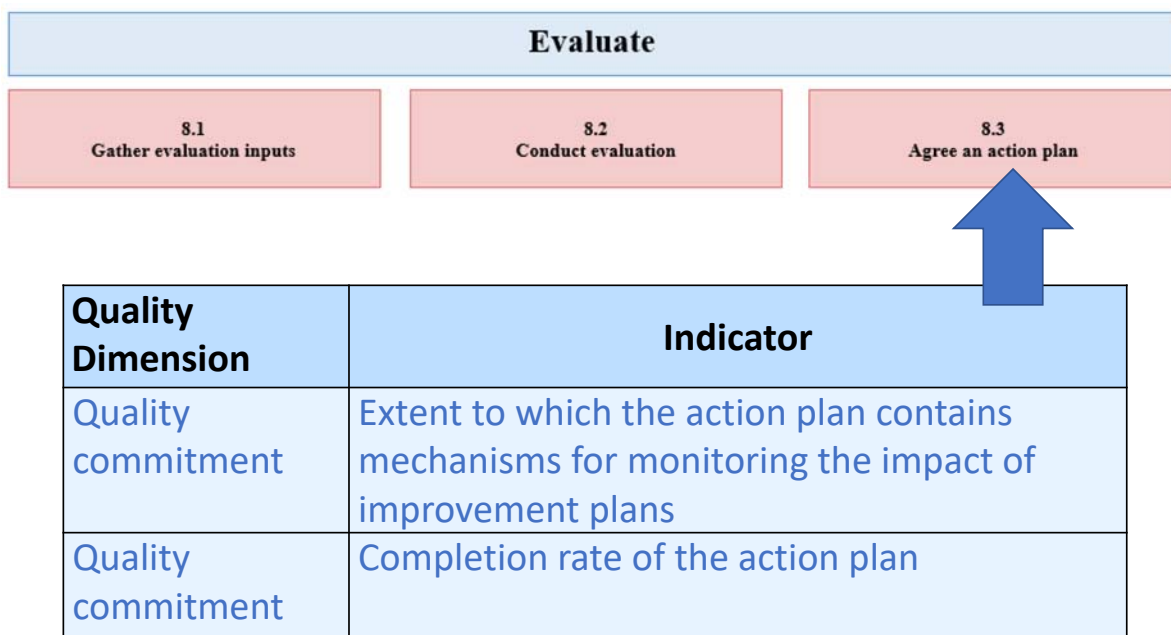| Quality Dimension	Indicator
Relevance	• User satisfaction index • Percentage of unmet user needs • Time since last user consultation, in terms of years or months
Accessibility and clarity	Availability of an information service/unit or a call centre for users to answer enquiries about data and metadata

Evaluate

8.1 Gather evaluation inputs	8.2 Conduct evaluation	8.3 Agree an action plan

- Cost effectiveness
- Output quality
- Quality commitment
- Soundness of implementation
- Timeliness and punctuality

Evaluate

| 8.1 Gather evaluation inputs | 8.2 Conduct evaluation | 8.3 Agree an action plan |

Quality Dimension	Indicator
Output quality	• Extent to which quality indicators are close to target values • Trends in quality indicators (e.g., improving/worsening) for recurring processes • Percentage of quality dimensions that were not possible to assess and why

Evaluate

| 8.1 Gather evaluation inputs | 8.2 Conduct evaluation | 8.3 Agree an action plan |

Quality Dimension	Indicator
Quality commitment	Extent to which the action plan contains mechanisms for monitoring the impact of improvement plans
Quality commitment	Completion rate of the action plan

Examples

Overarching Processes:
QUALITY MANAGEMENT
METADATA MANAGEMENT

33

Overarching Process: QUALITY MANAGEMENT							
Specify Needs	Design	Build	Collect	Process	Analyse	Disseminate	Evaluate

Quality Dimension	Indicator
Quality commitment	• Availability of a quality assurance plan • Availability of a quality policy • Availability of procedures to plan and monitor the quality of the statistical production process • Availability of a clear organizational structure for managing quality • For what proportion of GSBPM sub-processes are standardised corporate solutions used?
Managing respondent burden	• Is there a communication strategy for encouraging response? • Percentage of statistics produced from administrative data

Overarching Process: METADATA MANAGEMENT							
Specify Needs	Design	Build	Collect	Process	Analyse	Disseminate	Evaluate

Quality Dimension	Indicator
Managing metadata	• Availability of a policy on metadata documentation and standards on updating metadata • Extent to which metadata and metadata terminology are compliant to existing metadata standards • Use of a metadata system in the production process • Extent to which metadata are available in different formats and available to users • Are metadata available in machine-readable, searchable and accessible formats? • Are metadata and data accessible in standard exchange formats (SDMX, DDI, etc)

Overarching Processes							
Specify Needs	Design	Build	Collect	Process	Analyse	Disseminate	Evaluate
1.1 Identify needs	2.1 Design outputs	3.1 Reuse or Build collection instrument	4.1 Create frame & select sample	5.1 Integrate data	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Gather evaluation inputs
1.2 Consult & confirm needs	2.2 Design variable descriptions	3.2 Reuse or Build processing & analysis components	4.2 Set up collection	5.2 Classify and code	6.2 Validate outputs	7.2 Produce dissemination products	8.2 Conduct evaluation
1.3 Establish output objectives	2.3 Design Collection	3.3 Reuse or build dissemination components	4.3 Run collection	5.3 Review and validate	6.3 Interpret & explain outputs	7.3 Manage release of dissemination products	8.3 Agree on an action plan
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1.5 Check data availability	2.5 Design processing & analysis	3.5 Test production system		5.5 Derive new variables & units	6.5 Finalise outputs	7.5 Manage user support	
1.6 Prepare and submit business case	2.6 Design production systems & workflow	3.6 Test statistical business		5.6 Calculate weights			
		3.7 Finalise production system		5.7 Calculate aggregates		**GSPBM Ver 5.1**	
				5.8 Finalise data files		**January 2019**	