



الهيئة الاتحادية
للتنافسية والإحصاء
FEDERAL COMPETITIVENESS
AND STATISTICS AUTHORITY



NATIONAL FRAMEWORK OF STATISTICAL DATA QUALITY (NFSDQ)



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Framework

The Federal Competitiveness and Statistics Authority publishes framework according to the following guidelines: “Statistical Data Dissemination” and “Code of Practice for UAE Official Statistics”



The Federal Competitiveness and Statistics Authority (FCSA), is a UAE federal government entity created by Presidential Decree No.6 of the year 2015. The authority’s mission is to strengthen and enhance UAE’s national data and competitiveness capacities. The FCSA is one of the official government sources for national statistics and is one of the government representatives on matters related to national competitiveness. The FCSA aims at improving the UAE’s global competitiveness performance by working with stakeholders on defining and implementing reforms and policies across sectors.

Vision

Knowledge for prosperity

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Forward

The Federal Competitiveness and Statistics Authority (FCSA), in coordination with local statistics centers and various government authorities in UAE, strives to provide accurate and reliable statistics on social, economic, and environmental conditions and circumstances for decision makers, policy makers, the public, media, business community, researchers, and international community.

In view of that, FCSA is so keen to disseminate on a periodic basis the knowledge and awareness of legislations, laws, and regulations that support the development of UAE national statistical system along the lines of globally adopted laws of statistics. Our main aim is to ensure its conformity and consistency with the best-adopted international standards and to pursue the highest standards of quality in practicing statistical work. We aspire to unify statistical concepts as well as its standards and elements across all our partners in UAE by sharing knowledge, skills, and gained experiences.

Based on all of that, we present you with the “National Framework of Statistical Data Quality” (NFSDQ), which was prepared by selected experts on methodologies and statistical quality in UAE.

This framework aims to promote, develop, and manage the quality of the official statistical process adopted in the national statistical system and to provide accurate statistics for decision makers, policy makers, and all users. It also draws upon the most prominent international and regional manuals on statistical data quality.

I would like to thank the dedicated team who worked diligently to produce this valuable knowledge material that conforms to internationally recommended institutional model, rules, and methodologies and is based on constant improvement of performance in line with the achievement of the UAE National Agenda and Vision of 2021.

I hope you find this guide to your satisfaction and beneficial in achieving our goals and contributing to the success of our institutions and our country that deserves only the best.

Allah is the Arbiter of Success

Abdullah Naser Lootah
Director General- FCSA

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Introduction

The international recommendations in the official statistical work and the best practices in developing statistical systems suggest the importance of establishing a general framework for statistical data quality to define the main quality standards and their themes and objectives, which the national statistics centers seek to implement. The development of NFSDQ coincides with the context of the recommended institutional work model that is based on the incessant improvement of performance. Within this framework, UAE statistics authorities are committed to planning statistical projects and activities and defining the processes plan and statistical methods for implementing surveys and statistical censuses and optimizing administrative records data. The quality of the product is monitored and controlled by sustaining the performance of processes that guarantee the production of appropriate level of statistical data prior to using them. Finally, the results are used and the opportunities for improvements are monitored to continuously guide

and implement surveys and statistical censuses and use administrative records data in a way that guarantees their effectiveness and relevance to the institutional work. Indeed, the primary objective of all of this is to increase the credibility of the statistical product and gain the trust of the data users at local, regional, and international levels.

This framework is based on several locally and internationally accredited references, namely:

- Fundamental Principles of National Official Statistics issued by the United Nations in 1994, with its introduction updated and released in 2014.
- Data Quality Assessment Framework issued by the IMF in 2003.
- The GCC Statistical Code of Practice issued in 2016.
- Guideline template for a generic National Quality Assurance Framework (NQAF) prepared by a group of NQAF experts in 2012.
- The Handbook of the Operation and Organization of a Statistical Agency 2004 issued by the United Nations.

Concept of Statistics Quality

Despite the lack of uniform and unanimous definition of “data quality” statistically, the observer of data quality concepts and definitions will find it focusing on the concept of “data fitness for use”. This finding is reached through the development of statistical data within a professional, honest, and impartial institutional environment, in a manner closely related to the defined goals and users’ needs, by using a standard approach with a clear framework. Additionally, such data are subject to clear and regular scientific and practical procedures to ensure their reliability, authenticity, comparability, and efficiency. Moreover, the data should be equally provided to everyone, available in a timely manner, and accessible and usable with high flexibility. Among the most notable principles is the Fundamentals of Data Quality, which received great attention worldwide since early 1980s. This was evidenced by the issuance of various manuals and standards for measuring and evaluating data quality, the most important of which are the Fundamental Principles of National Official Statistic issued by the United Nations, the Declaration on Professional Ethics adopted by the International Statistical Institute, and the Generic Data Quality Assessment Framework incorporated in the General Data Dissemination System issued by the IMF.

Goals

NFSDQ aims to familiarize statistical data users and producers with the concept of statistical data quality and its core themes and processes as well as to consolidate the principles of statistical work in UAE for producing statistical data of high quality and enhancing customers’ confidence, regardless of their levels, in the data issued by the national statistical system. NFSDQ also helps to develop an effective mechanism dedicated to monitoring and developing the quality of official statistics.

NFSDQ aims to achieve the following:

1. To provide a specified and declared national quality framework for the dimensions, elements, and indicators of statistical data quality at the national level.

2. To enhance customers’ confidence in the official statistical data.
3. To combine the efforts of all data producers to improve statistical outputs.
4. To optimize data production management by realizing the adopted quality standards.
5. To establish traditions and culture dedicated to the standards of statistical data quality.
6. To raise awareness of the culture of data and information quality.
7. To unify the framework and concept of quality at the national level.

National Statistical System

The national statistical system includes all entities that contribute to the preparation, publication, and use of official statistics, among which are:

1. The Federal Competitiveness and Statistics Authority (FCSA), which is the focal point of the national statistical system in UAE and aims to develop an innovative statistical system that contributes to providing appropriate and reliable statistics.
2. Local statistics centers, which are responsible for official statistics in each Emirate according to local laws and regulations. They work to develop local statistical systems that are consistent with the national statistical system.
3. Federal and local government authorities that prepare official statistics in accordance with statistical standards.
4. The federal and local authorities (including institutions, authorities, and companies) that provide primary data from their administrative records. Moreover, there are other categories closely connected with the statistical system due to their role in preparing and using official statistics as follows:

Data Units provide the preliminary data used in preparing statistics, such as households, individuals, and economic facilities, through statistical forms designed to collect statistical data from these units. The importance of these categories lies in the fact that they are the main source of data used as the basis of official statistics. Indeed, this requires adopting certain procedures to obtain accurate

data. FCSA, along with the local statistics centers, provides the appropriate frameworks for the units of the study that are structured as per the scientific methods and international approaches.

5. Official statistics users of various interests like decision/policy makers or planners in different domains, such as economic, demographic, social, agricultural, environmental, etc. This group also includes academicians, researchers, students, and members of local, regional, and international community who are concerned with official statistics of UAE

Clearly defining the components of the national statistical system helps to determine the scope and dimensions of the quality framework, especially the dimensions of relevance and accessibility that are closely associated with measuring the extent to which statistics meet users' needs.

Framework Usages

NFSDQ defines a set of fundamental quality themes (quality standards) that FCSA, along with its strategic partners from local statistics centers and government authorities producing official statistical data, seeks to implement over all statistical products issued by UAE statistical system.

Indeed, NFSDQ contributes to the sound definition of the quality standards that FCSA is committed to achieve upon initiating the process of collecting the data, processing them, and preparing and publishing statistics to users, whether the sources of such data are censuses, statistical surveys, or administrative records. As a result, NFSDQ generates a unified understanding of the statistical quality to all authorities in the statistical system. This will enable them to prepare consistent implementation mechanisms to monitor, assess, and develop the statistical quality of their registry data.

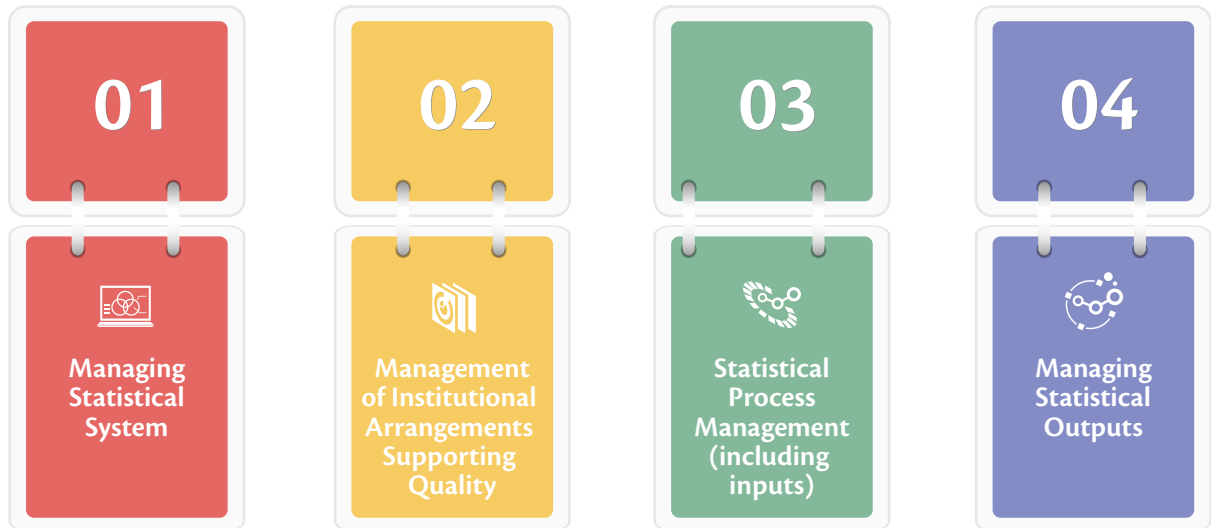
NFSDQ can be seen as a key reference to statistical quality management within the national statistical system. It defines the concept, importance, elements, and standards of the quality of official statistics in order to establish a common understanding of the components of the statistical system by both data



providers and statistics producers as well as users. In addition, it mobilizes efforts to set up integral and consistent procedures aimed to promote and develop the quality of the official statistics issued by UAE statistical system. Hence, NFSDQ should not be looked at as a detailed work manual for quality processes, but rather a basic reference that will assist FCSA, the local statistics centers, and government authorities in preparing detailed guidelines for monitoring and controlling the quality of official statistics, whether the sources of these statistics are field surveys or administrative records. Furthermore, NFSDQ assists the authorities comprising the statistical system in developing a mechanism for quality assessment and following up with the development, whether it is self-assessment or external assessment carried out by a third party.

NFSDQ Components

NFSDQ consists of the following elements:



The main quality themes introduced in NFSDQ emanate from the concept of Total Quality, which includes the quality of statistical inputs, processes, and outputs. On one hand, they will meet the needs of statistical data users, and on the other hand, they will comply with internationally and regionally adopted statistical frameworks and standards, making these statistics “fit for use”.

We will tackle the basic standards of NFSDQ components as follows:



1. Managing Statistical System

The issuance of high quality official statistics requires an effective statistical system to ensure the production of consistent, reliable, non-conflicting, and cost-effective statistics by integrating the efforts of all components of the statistical system. To ensure achieving this aim, the following standards should be taken in consideration:

1.1 Coordination and Governance of the Statistical System

It is indispensable to coordinate the work of government authorities comprising the statistical system in UAE to maintain and develop the quality of the official statistics issued by these authorities. In order to ensure the effectiveness of the system, the following must be available:

- Corporate laws and regulations that are fit for the statistical system.
- Clear mechanisms for coordinating the production and dissemination of official statistics by statistical authorities. These include planning, implementing, coordinating, organizing, and assessing the production and dissemination of official statistics. In addition, they ensure the quality of the statistics, identify the guidelines and methodology for producing official statistics, and harmonize statistical information. They also avoid duplication in work among authorities producing data and promote knowledge exchange between the statistical system components.
- Agreements and memorandums of understanding among the members of the statistical system with a view to organizing and prioritizing statistical work.
- Constant coordination with all federal and local authorities producing official statistics in various fields of statistical work.
- Partnerships and relationships between the statistical system and other international organizations working in the statistics field.
- Harmonization and effectiveness within the statistical system at the national and local levels.
- Improvement of UAE official statistical systems through establishing strategic partnerships in the area of statistics.
- Arrangements that ensure the confidentiality of information collected for statistical production purposes, in accordance with federal and local laws that guarantee data confidentiality.

1.2 Management of Strategic Partners Relationship

It is essential to establish a distinctive and sustainable relationship with all strategic partners in the area of statistical work including data users and producers, statisticians, government authorities supporting statistical work, media institutions, and respondents, especially large companies. This is to ensure the provision of consistent and highly professional services and statistics to customers from the governmental and semi-governmental sectors, private and public sectors, and individuals through the following:

- Clearly identifying in the statistical system the strategic partners and their role and classification according to their importance and the nature of the relationship with them.
- Providing sound and systematic mechanisms to identify the partners' needs of different statistical data and services.
- Meeting the needs as per their priority and reflecting them on the statistical work program.
- Managing official statistics requests by an organizational unit specialized in customers' relationships (Customers' Happiness Centers) and registering such requests as per the adopted procedures.
- Incorporating adequate procedures dedicated to facilitating access to the registry data of government authorities for statistical purposes.
- Building a strategy dedicated to managing the relationship with the media. This is to identify and regulate the media's role in disseminating statistical data and information, which increases the efficiency of data production, the respondent's responsiveness, and the data sources.
- Establishing a committee to manage the dialogue between producers and users of statistics to ensure the provision of appropriate statistics.
- Measuring customer satisfaction regularly to determine whether the statistics and statistical services meet their needs and expectations.

1.3 Management of Statistical Standards

Unifying the statistical standards of the statistical system contributes to enhancing the role of statistics and their consistency, effectiveness, and comparability within UAE and globally. Therefore, we should always strive to use uniform statistical standards among the statistical system components. These standards include concepts, terminologies, classifications, and basic work approaches. This can be realized as follows:

- Prepare a list of standards adopted within the statistical system in line with international standards and the national statistical system requirements and in cooperation and coordination with the strategic partners.
 - Coordinate with the partners to review, develop, and implement statistical standards.
 - Adopt mechanisms to manage amendments to the statistical standards adopted in the statistical system.
 - Make statistical standards available to all users with sound mechanisms for implementation.
 - Ensure the implementation of the statistical standards adopted by the statistical system.
 - Ensure the use of classifications adopted in the national statistical system and consolidate them at the local and national levels.
 - Build and enhance the statistical capacities of the authorities operating within the statistical system in the area of implementing statistical standards and sound and adopted work approaches.
 - Monitor the level of implementation of the adopted statistical standards.
 - Create a national team, national committee, or an organizational unit for standards and methodologies tasked to define methodologies, standards, and mechanisms of statistical work in the statistical authorities of the national statistical system.
- Develop statistical manuals containing methodologies, standards, classifications, and statistical concepts and make them available to ensure consistency in the preparation of official statistics.
 - Implement the concept of Knowledge Management and ensure its transfer to all statistical system personnel.
 - Develop mechanisms and programs to raise statistical awareness.
 - Develop quality manuals and ensure the adherence of the statistical system components to them, as well as monitoring the implementation of the standards contained therein.



2. Management of Institutional Arrangements Supporting Quality

The statistical agency must be empowered and resourced to achieve the statistical work and produce official statistics and statistical data professionally and capably. This covers all corporate, legislative, financial, human, technological, and other procedures that ensure the efficient implementation of statistical work. To guarantee that, the following criteria should be taken into consideration:

2.1 Professional Independence and Objectivity

Professional Independence is defined as the process of preparing and disseminating statistical data without exerting any pressure on the shape of the results or the selection of statistical tools and methodologies. All statistical agencies seek to guarantee the professional independence of the official statistics issued by them to achieve the highest possible degree of users' confidence, regardless of their levels or segments. Therefore, the official statistics should be prepared, developed, and published professionally, objectively, independently of any pressures or external influences, and transparently through the fair treatment of all users. This can be realized as follows:

- Adopt a law or legislation authorizing the producer of official statistics to prepare, develop, and disseminate statistics practically, professionally, and independently of any pressures.
- Allow authorities that produce official statistics to decide on statistical policies, methods, standards, and technical procedures for preparing and producing official statistics impartially and neutrally.
- Necessitate the adherence of the authorities that produce official statistics to the scientific statistical considerations and the principles of international and national statistical practices.
- Select data sources, methodologies, and procedures in a professional manner.
- Compile statistics and statistical data objectively as determined by statistical considerations.
- Make statistical methodologies and standards used for data collection and processing and preparation of statistics accessible to all users. In the event of making any amendments to them, users are to be notified.
- Clarify the published statistics to all users.
- Provide a sound policy and a calendar for the dissemination of statistical data. Statistical authorities should abide by the date of the calendar.
- Respond to any misuse or interpretation of statistics.
- Fully comply with the principles and ethics of scientific research and statistical work.

2.2 Transparency

The assurance and achievement of transparency could be realized through the following:

- Interpreting data properly and accurately according to the adopted standards.
- Exhibiting, publishing, and making available all information related to data sources.
- Exhibiting, publishing, and making available all statistical methods and procedures implemented in the statistical process.
- Announcing the changes and updates in statistical methodologies prior to announcing the results of statistics based on the new methodologies.
- Providing the implemented and adopted methodologies to different users of data.
- Providing and making the metadata available for all data and statistical indicators.
- Announcing the dates and timings of the main statistical bulletins by issuing and publishing a calendar for the dissemination of all data in a timely manner.
- Consulting users regularly on the periodicity of publications.
- Regularly monitoring the timeliness of all publications.

2.3 Data Confidentiality

Great measures must be taken to ensure the data provided by respondents (households, facilities, registry data, etc.) are confidential and used for statistical purposes only. This can be achieved through the following:

- Introducing a law or legislation that protects the confidentiality of personal data and guarantees the respondents' privacy and developing regulations and procedures that ensure its effective implementation.
- Adopting information security rules and regulations to protect the confidentiality of data. They may include imposing penalties against employees who disclose confidential data to individuals, institutions, etc.

- Providing policy and procedures to prevent disclosure of confidential data.
- Providing material, technical, and administrative resources to protect the security of statistical data.
- Keeping individual data safe and inaccessible except by employees who need such information to carry out their statistical tasks.
- Raising awareness of all individuals producing official statistics in advance on the importance of maintaining the confidentiality of data, as well as identifying penalties to be imposed against the disclosure of such data.
- Constantly announcing to the respondents about privacy protection and individual data confidentiality.

2.4 Commitment to Quality

Quality standards should be adhered to when preparing and disseminating statistics, and strengths and opportunities for improvement should be identified periodically and systematically to improve the quality of statistical processes and outputs. This could be achieved through:

- Presenting clear texts on the statistical data producer's commitment to provide high quality statistical data.
- Providing specialized manuals on statistical quality standards and procedures, which determine the scope of quality and a way to implement it in the authority.
- Assigning specific persons or a specialized organizational unit to plan and monitor the quality of statistical processes.
- Regularly monitoring, assessing, and reporting the quality of statistical products in accordance with statistics quality standards.
- Using forms for quality control and monitoring at all stages of production.
- Identifying the guidelines for managing quality in the statistical production process, including:
 - o Describing the statistical production process and documenting all its stages.

- o Describing the methods of quality control at each stage of the statistical production processes.
- Establishing infrastructure and mechanisms for documenting the statistical product and its quality.
- Providing regular training courses for employees to raise their awareness on the value of data quality and to support the quality assurance plan.
- Establishing procedures to control the quality of the statistical product.
- Analyzing the results of quality reports regularly and reporting any issues to the Senior Management to decide on the improvement of the procedures.
- Developing appropriate procedures to improve the quality of the statistical product based on quality reports.
- Conducting User Satisfaction Surveys regularly and including their results in the action plan to improve data quality.
- Seeking the assistance of external experts in reviewing some key statistical products.

2.5 Relevance and Adequacy of Resources

The human, financial, and technical resources needed to manage statistical processes should be available professionally and competently in order to produce statistics of high quality. This could be achieved through:

- Providing relevant and adequate human and financial resources to meet current statistical needs and implement statistical surveys program
- Hiring employees who are qualified to carry out the statistical work and develop their competencies constantly and as needed.
- Managing human resources efficiently and measuring the impact on the level of productivity (outcome-based management).
- Utilizing relevant and adequate technological resources, such as programs and equipment that support statistical processes and statistical



needs.

- Implementing the principle of project management when carrying out statistical processes.
- Ensuring that the process plan is implemented in a manner that optimizes resources.
- Digitalizing all processes, programs, outputs, and documentation of all stages of data production.



3. Statistical Process Management

The element that enhances the credibility and quality of a statistical figure is the efficiency of the statistical processes necessary to produce statistics, be it in the planning stage of the survey, the data collection stage, data processing and analysis stage, or the data dissemination stage. The processes management, which should be carried out with professionalism, includes:

Major Processes

Quality Management (Data Quality Assessment and Control Mechanism)
Metadata Management
Database Management
Management of Statistical Processes

Knowledge Management
Management of Statistical Methodologies
Management of Statistical Programs
Resource Management
Customer Service Management

Supporting Processes

Management of Resources, Financial Management, Project Management, Management of Legal Framework, Management of Regulatory Framework, and Strategic Planning.

The implementation of quality procedures and standards is highly supported by employing a standard model for benchmarking data collection, processing, analysis, and dissemination processes through which statistical process procedures are formulated. These processes should be implemented efficiently by considering the quality, cost, time, and burden of outputs. To ensure this, the following standards should be taken into account:

3.1 Clarity and Integrity of Methodologies

This means to verify that the methodology used in the implementation of the statistical process is a sound methodology that incorporates technically and scientifically recognized approaches, methods, classifications, definitions, and practical procedures. This allows it to achieve the goals of that process, namely providing accurate data to explain the phenomenon or address the problem of the study.

Therefore, statistics should be prepared in accordance with appropriate statistical methodologies and procedures that are consistent with scientific considerations, international standards, and best practices and are commensurate with the national and local situations. This can be realized as follows:

- Ensure the consistency of the systematic statistical framework with international standards and principles and best practices.
- Develop a standard document for the methodological framework, and implement the statistical processes and review them periodically.
- Include adequate procedures to ensure the implementation of adopted and standardized methodologies, standards, classifications, and statistical concepts.
- Include appropriate procedures to measure the implementation of adopted and standardized methodologies, standards, classifications, and statistical concepts.
- Document all work procedures at various stages in a convenient and easily accessible manner.
- Design the administrative records data in a way that makes them appropriate for statistical purposes.

3.2 Cost Effectiveness of the Statistical Program

The various resources should be used effectively to ensure their cost effectiveness. Effective administrative, managerial, and technical procedures and methods, which optimize the utilization of different resources, should be implemented to maximize the return on data and produce statistical indicators, in accordance

with the pre-defined goals, with the highest level of quality and the lowest possible cost. This can be realized as follows:

- Provide supporting documentation to achieve the cost effectiveness of the statistical program.
- Develop procedures to measure the level of effectiveness of the production of statistical indicators.
- Use the appropriate statistical methods and procedures that take into account cost reduction.
- Use administrative records in the preparation of statistical indicators whenever possible.

3.3 Reduction of Response Burden

Individuals, households, and companies are the main sources of data on which statistics and statistical indicators are based. Therefore, it is important to obtain quality data and information from these sources. However, a balance should be achieved between meeting the user's need for statistics and reducing the cost and burden on respondents. This can be realized through the following:

- Developing a guide for the principles and guidelines of managing the relationship with the respondents, caring for them, and demonstrating their vital role in preparing quality statistics that would benefit them.
- Using administrative resources whenever possible to avoid repeated requests to obtain information.
- Enhancing data collection mechanisms to link data sources wherever possible in order to reduce the burden on the respondents.
- Conducting a study of response burden to understand the level of burden on respondents and a way to mitigate it.
- Designing the questionnaire and formulating the questions in a style that ensures reducing the burden of answering them.
- Using appropriate electronic means and adapting modern techniques used in the statistical work to reduce the burden on the respondents.



4. Managing Statistical Outputs

The statistical outputs should meet the requirements and needs of existing and potential users. These outputs should be prepared according to the adopted statistical standards and methodologies. To ensure this, the following quality standards (quality themes) should be implemented:

4.1 Relevance

Statistics should be produced to meet the needs of existing and potential users. Also, the concepts, classifications, and statistics should meet the users' needs and requirements. This can be realized as follows:

- Identify existing and potential users and define their priorities and the nature of their needs for statistics.
- Provide specific procedures to consult users on their needs, including procedures to respond to emergency and high priority requests.
- Provide procedures to monitor the extent to which the statistics issued meet users' needs.
- Regularly and systematically measure statistics users' opinions and level of satisfaction with the relevance of the statistics produced.
- Provide assistance to users urgently and on the basis of all-encompassing knowledge and identify the person in charge of each field.

4.2 Accuracy and Reliability

Accurate and reliable statistics, which are capable of describing various phenomena precisely such that the calculated statistics are close to the actual value of the phenomenon, should be prepared and disseminated. Accuracy is estimated by certain measurements of sampling errors, for example standard error, relative error, and design effect, and non-sampling errors, such as measurement errors, errors of collecting the data, lack of data, lack of response, etc. This can be realized as follows:

- Adopt sound and systematic methodologies and procedures to review and examine the source data, intermediate results, and statistical outputs.
- Implement standards and procedures for examining data accuracy periodically and regularly.
- Adopt guides, procedures, and standards to assess the accuracy of data and statistics.

- Adopt a mechanism that includes examining and reviewing the data and mechanisms to follow up on and address errors. They are to be implemented on a regular basis.
- Extract quality indicators to measure the data accuracy, including sampling and non-sampling errors.
- Document and discuss the results of the examination, review, and assessment of data with a view to improving and developing its accuracy and determine the impact on the quality of statistical indicators.

4.3 Consistency, Coherence, and Comparability

Prepare and issue statistics that are consistent with each other over time and comparable by using unified standards, concepts, and classifications. Consistency and coherence are among the most important quality standards of statistical data because they enable comparing and linking databases. This can be realized as follows:

- Compile statistics based on specific standards in terms of scope, definitions, units, and classifications in statistical surveys.
- Unify all the standards, classifications, and concepts used and make them publicly available so that they can be accessed easily and used to prepare statistics in accordance with unified standards.
- Provide sufficient methodologies and procedures to ensure the consistency of statistical data by checking the compatibility of variables, indicators, and built tables within the same agency.
- Make a comparative study between the concepts, classifications, and standards used in government entities and local statistics centers and those used in FCSA.
- Provide a document that shows the degree of variation between the statistical coverage, concepts, and classifications used and those applied internationally. Provide mechanisms to handle these variations in order to achieve an appropriate compatibility level in used concepts and classifications.

- Conduct comparisons between the statistics produced and their counterpart from other sources. They can also be compared with statistics of other geographical regions and countries.
- Inform data users in case any revisions or updates are made in the previously published statistics.

4.4 Accessibility and Clarity

Statistics and metadata should be made accessible to users in a convenient way so that they can easily access and understand them in order to realize the maximum benefit at the lowest cost and in the shortest time. This can be achieved by the following:

- Establishing specific policies and procedures to disseminate statistics and make them accessible to users in different ways that suit their various needs.
- Documenting metadata according to the standards of accredited metadata systems to link the statistics, indicators, and metadata.
- Presenting statistics along with their metadata to ensure proper interpretation of statistics and proper comparisons.
- Making the necessary metadata accessible in order to guarantee the clarity of the produced statistics to all users.
- Using modern technology to publish statistics in order to serve the largest number of users and allow them to access the tables that suit their needs.
- Facilitating communication with data users and acquainting them with the details of available data in terms of their benefit, periodicity, and update. Also, conduct a survey to understand their opinion and take their suggestions.
- Informing users of the quality of statistical outputs in accordance with the approved quality standards.
- Diversifying the media and communication means used for dissemination to ensure accessibility of data to different users.

4.5 Timeliness and Punctuality

Statistics should be prepared and released in a timely and punctual manner to ensure that the data provided to users are up-to-date and that they are provided on a timely basis according to the timetable agreed upon in advance with users. Data timeliness is the duration between the reference period of the indicator and the date of its release. This can be realized as follows:

- Specify appropriate timings to make statistics available in line with international statistical standards, such as the General Data Dissemination system (GDDS), Special Data Dissemination Standard (SDDS), and others, to meet the needs of users.
- Prepare a time schedule agreed upon with data users that states the dates of data accessibility. There must be a continuous follow-up mechanism to ensure the availability of data in the agreed timings.
- Inform users of any probable delays in the provision of data, along with the reasons for delay and the new dates of data availability. This should not exceed critical or important dates for the release of official statistics required for the decision maker in the Emirate/country.
- Provide measurements for the timeliness of the data provided to users and the extent to which the data abide with the agreed timings.
- Disseminate the statistical calendar in advance and circulate it among users.

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*A copy of this framework can be retrieved from Statistical Methods and Quality Gate
<http://methods.fcsa.gov.ae/Forms/Home/Home.aspx>*

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