

Statistical Surveys Manual





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Introduction

Dubai Statistics Center aims to provide an official and accurate data that meets the development requirements of the economic and social statistical data and information, in addition, the strategic partners and all data users' needs as acontribution to support the comprehensive development and achieving society happiness through statistical data and information results.

Statistical surveys are the main source of the official statistical data and there is no exaggeration if we say that it is an indispensable way to provide the data.

Based on that, Dubai Statistics Center is implementing some surveys on an annual basis in order to achieve the development goals. The surveys are economic, social, and demographic statistical surveys considering the ten principles of the official statistics especially the following elements quality, cost, timing and the difficulty on respondent.

This manual has the stages of the statistical survey that are significantly consistent, and matched in some cases with the Generic Statistical Business Process Model - fifth version (GSBPM)

According to the (GSBPM) and following the national, regional, and international experiences, this manual has been developed to help and guide the surveyors who is working on the statistical surveys that contribute to get the statistical results in a reasonable time, cost and to reduce the difficulty of collecting the targeted responses.



This manual includes a detailed explanation of the statistical surveys work stages and the considered implementation quality procedures must be achieved.



Implementation Stages of the Statistical Survey

The statistical survey is defined as a structured statistical process aiming to provide statistical data on certain society characteristics.

The survey is based on the principle of inclusiveness for all population units in case of comprehensive survey (general census of population, housing, and establishments), or including part of population units to be selected according to scientific principles and approaches in case of sample survey such as some family, social, and economic surveys.

Statistical survey been implemented based on the need of the missing statistical information of a targeted population elements. This information is reliable to analyze one of the following phenomenon, economic, social, or demographic and decided the necessary decisions and actions.

The statistical survey implementation process includes different procedures that starts with setting goals, planning the statistical survey, identifying the statistical survey frame and followed by designing the targeted population sample, designing the questionnaire, data collecting and auditing, analyzing and disseminating the results.

We can find below the implementation stages and the technical procedures of the statistical survey according to the prepared action plan to have an accurate statistical data:

- Survey planning stage, this stage includes the following processes:
 - 1-1 Identifying the survey objectives



- Verify the legal basis of laws and legislation to implement a statistical survey and obtain the statistical data.
- Identify the measured variables of a phenomena or a problem in the targeted study.
- The center database should be analyzed before identifying the survey goals in terms of the content, sources, quality, and time reference, after that the decision can be taken to use the available data or implementing a new statistical survey.
- Identify the needs of the strategic partners and the users of the statistical survey data.
- Reviewing the users' database to identify all elements while implementing new survey.
- Coordinate with the concerned communication organization to identify and conceder the repeated requests from the community while preparing a statistical survey goals
- Review and analyze the customer's satisfaction survey to identify their needed data
- Define and document the statistical survey goals according to the development plans, programs and the needs of the strategic partners and users, and documenting them in a written form.

1-2 Identifying the survey requirements

- Identify the targeted population and geographical frame to estimate the work size and the statistical survey requirements.
- Estimate the statistical survey needs with HR & Administrative Services



Section to create a detailed survey structure that includes the job description and the required number of employees.



- Estimate the statistical survey requirements as the instruments, equipment, devices, vehicles, stationery, and publications... etc.
- Review the local and international experiences to avoid implementation difficulties.
- Identify the statistical survey mechanism (Census, sample survey, etc.)
- Form a qualified and experienced team to manage and supervise the statistical survey implementation and prepare the survey documents (forms, definitions, fieldwork mechanism, survey methodology...etc.)

1-3 Developing the implementation plan of the statistical survey

- Prepare a timeline for the statistical survey that includes the start and end of each stage and all processes
- Prepare a detailed action plans for each stage and identifying the employees, implementation timeline
- Prepare the statistical survey media campaign and assure that it includes the suitable content for the targeted population. The tradition media sould be used in addition to all new mediums as the public transportation, social media, educational institutions and mosques.

1-4 Preparing the statistical survey budget

- Identify the statistical survey needs and its implementation plan according to the following:



- Prepare a detailed estimated budget for the statistical survey
- Create a flexible budget that can be replaced in case of any emergencies while implementation
- Balance between the financial plan, human resources and the timeline

1-5 Obtaining the approval of the concerned authorities

 Prepare a detailed document that includes all above and submit it to the top management for approval

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2. Preparation stage

2-1 Developing the survey methodologies and techniques

The following should be considered while preparing the statistical survey methodologies:

- Identify the work method and kind if it is sample survey or comprehensive census.
- Identify the data collection method (questionnaire, devices, e-mail, and internet).
- Identify the classifications and manuals used in the survey.
- Identify the reference time of the data collection period.



- Identify the targeted population.
- Describe the survey frame.

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- Create a methodology of design, select, and expand the study sample and getting the results.
- Prepare a methodology for data auditing at all stages.
- Review the previous methodologies and implement the similar methods and update the definitions and work methods
- Prepare the statistical survey hiring requirements (surveyor, supervisor, observer, auditor... etc.)
- Prepare job applications, evaluation model for the candidates after the end of the survey
- Prepare the completion reports, fieldwork follow-up, and the receiving and submitting models
- Prepare the starting work form for surveyors, observers, and supervisors.
- Prepare the end of contract form for the statistical survey employees and clearance forms.

2-2 Creating the questionnaire that explains the survey objectives

The following must be concerned while preparing the survey questionnaire:

- Review the advanced statistical centers in designing the questionnaires.
- Concern the field recommendations internationally.
- The questionnaire should explain the survey objectives.



- Design the questionnaire to help in data collection method.
- Identify the questionnaire duration in order to be short and to reduce the difficulties for the respondents to assure the data quality.
- The questionnaire should include the center details and the main objective of the survey
- The questionnaire should be clear and easy
- Design the questionnaire and in an easy way to be filed.
- Divide the questionnaire according to its subjects with an appropriate title for each section.
- Create a suitable margins when designing the questionnaire to enable the surveyors to take notes
- The questionnaire fields should be appropriate and sufficient to write the answers.
- In case of digital answers, measurement unit should be identified.
- The questionnaire should be designed in an easy and clear way to be filled easily.
- The questionnaire should include an instruction summary of how to be filled
- Add a editable field for the surveyor to record the notes at the end of the questionnaire.
- Add the respondent name, job title, and phone number, date of submitting the questionnaire at the end.
- Add a field about the questionnaire status (completed, under revision...
 etc.) at the end of the form.
- provide the call center contact details for the surveyors
- Create a training manual that includes the questionnaire definitions,
 completion instructions, receiving and submitting the survey's





mechanism.

2-3 Creating the result tables

- The result tables are created according to the survey objectives.
- The programmer creating the results design on the smart statistical systems.
- Observe the need of the strategic partners and data users.
- The result tables should be clear.

2-4 Establishing review rules and consistency rules

- Create the field reviews to be reviewed with the questionnaire during the survey with the surveyors and supervisors to assure the inclusion.
- Prepare the internal review of the questionnaire to be checked after the receiving it from the field.
- Create database review with the questionnaire and its activation and overall results.
- Developing a validation rules to minimize the errors in the database and explain it to the programmer to be considered while preparing the survey programs.



- Creating rules for the results review.

2-5 Preparing the survey frame

- Identify the targeted population.
- Review the frame to clarify the errors.
- Update the frame changes.
- Extract the indicators to measure decrease or increase in the frame coverage.
- Document the frame defects and consider it while extracting the results and expand it.
- 2-6 Designing the sample and selecting its components (check the sample design methodology)
 - Develop a methodology of designing and sample selecting that represents the targeted.
 - Develop a methodology of testing and expanding the results.



Designing the data entry systems

- Discuss the questionnaire with the programmer and systems analyst to assure their accurate understanding of the content before designing the systems.
- Embed the data entry systems with a validation rules to minimize errors.
- Provide a storage spaces in the database.
- Ease access to the data entry system and operation.
- Use the updated technologies of data entry.

2-7 Conducting a pilot survey to test the previous operations

The following should be considered in the pilot survey:

- Deal with the pilot survey as the actual survey in terms of the questionnaire, timeline, methodology, training, review and input processes...etc.).
- Analyze the test results and prepare a report that includes the results and the recommendations of different operations such as the



- questionnaire type of questions, survey timing and achievement indicators timeline.
- Document the test methodology and elements and use the best recommendations.



3. Data collection stage

Data collection is the most important stage of the statistical survey; as it is the stage of producing the statistical data that all indicators been calculated from. This stage should meets the quality requirements to assure the accuracy of the data and it should been implemented through the following process:

3-1 Preparation of the data collection process:

Prepare an accurate plan to implement different aspects of data collection, the following shall be considered in this stage:

- Select the surveyors according to the requirements that must be met.
- Prepare an accurate plan to implement the different aspects and tasks responsibilities of this stage, and determining the implementation timeline for each process.
- Identify the survey environment includes the natural, geographical environmental of the targeted areas, in addition to the targeted





- population attributes individuals, families, and establishments.
- Identify the fieldwork areas to be recognized on the maps and visit it before starting the data collection process. That would help to in dividing the work areas to the supervisors and surveyors in a balanced manner to enable the completion of the data collection at almost the same time. Supervisors shall make sure of providing the survey tools, training manuals, maps, ID cards, progress and follow up reports.
- Divide the targeted population units on the surveyors according to the targeted completion levels and consider the location.
- Divide the surveyors on the supervisors to assure effective follow up as per the timeline.
- Launch the media campaign before the data collection stage in sufficient time to inform the respondents of the importance of the survey and its objectives.
- Prepare a work places for the surveyors and supervisors equipped with different devices and tools that helps in daily review of the work and prepare for the next day.
- Prepare an operations room equipped with



- an updated communication techniques and recruiting a qualified team who has the experience to provide the technical support for respondents and fieldwork team.
- Use the electronic devices and equipment in data collection process.
- Create a system to ensure the security and confidentiality of the data during the storage and circulation levels.
- Identify having a clear methodology and appropriate procedures for dealing with the non-response cases.
- Prepare the fieldwork manual / training manual / fieldwork mechanism that includes all work procedures. In addition to the concepts and subjects definitions that the team should know.
- Create an introductory message to inform the targeted population of the importance and objectives of the survey that should be delivered by the surveyors.
- Create a brochure with the main instructions of conducting an interview that can be easily used by the surveyors.

3-2 Train the fieldwork team



The training purpose is to provide the knowledge, capabilities, skills of the data collection, review and coding for the fieldwork team. The following shall be considered in the training process:

- The training process is very important stage
 because it plays a main role in improving the
 skills and capabilities of the fieldwork team and
 providing them with knowledge and
 experiences that enable them to perform better.
- Allocate the necessary time to acquire experiences and skills by the work team.
- Train the surveyors, supervisors, and observers on the different technical, administrative, and organizational aspects related to data collection that includes the methodologies, techniques of the fieldwork, reviewing, auditing, coding techniques and communication skills.
- Inform the working team of the importance and objectives of the survey because they are more likely to be asked about it by the respondents.
- Train the fieldwork team on the field map mechanism (where they should start and how they move to the end) and using the maps and how to reach the counting unit.
- Ensure that all field work team members attend the training program and the final test.
- Conduct the practical training besides the other training to optimize the work quality of the team.
- Conduct a test to assess the work team level and understanding.



- Conceder the experiences, qualifications, and personal attributes while choosing the fieldwork team in addition to the test result.
- Assess the training program and trainer by the trainees to receive their feedback in order to notice the program disadvantages and avoid it in the future, and identify the advantages to be enhanced in the next training programs.

3-3 Data collection

The following shall be concerned in data collection process to assure the proper data collection:

- 3-3.1 Choose the best time for collecting data and exclude the holidays and vacations or the bad weather conditions such as rain and extreme heat, etc.
- 3-3.2 All survey employees shall sign a start of work form and receive the survey tools and devices to maintain the confidentiality of work.
- 3-3.3 Identify the visit times based on the respondents' conditions and as per the pilot test.
- 3-3.4 Respect the community traditions by the fieldwork team.
- 3-3.5 Fieldwork team shall look and dressed well and knocking the door quietly considering the homes sanctity, and enter only after having the permission.
- 3-3.6 Surveyor should introduce himself, the center and explain his mandate and putting the ID card clearly.



- 3-3.7 No gifts are accepted from respondents and no certain services are requested from them.
- 3-3.8 If the target person is not available, his representative is chosen according to the specified rules in this field.
- 3-3.9 Give the respondent enough time for answering the questions and not ask to hurry.
- 3-3.10 No face reaction should be used over the answers given by the respondent.
- 3-3.11 No interview can be conducted with the respondent in the presence of another person without his permission.
- 3-3.12 Prepare and submit the completion reports to the supervisors.
- 3-3.13 The supervisor should make certain that all survey units in the surveyors work area has been visited by the surveyor.
- 3-3.14 No instructions are issued to the surveyors by the supervisors other than the documented instructions in the training manual and the technical circulars.
- 3-3.15 In case the need to issue new instructions, it must be in writing and approved by the project manager or the authorized person.
- 3-3.16 Provide a free toll number to enable the surveyors and respondents to communicate with the operations room in case they have a questions or inquiries.
- 3-3.17 Provide a written mechanism to distinguish between the missing values, zero values and refusal cases when filling



out the form.

- 3-3.18 Set a periodic meetings and special meetings in case the work progress needs to be discussed or take the necessary actions to improve the achievement and overcome any obstacles may be faced in data collection process.
- 3-3.19 Keep reminding the surveyors of the data confidentiality and not allowing any person other than authorized.
- 3-3.20 No copies of the questionnaire shall be kept with the surveyors or any other person in the fieldwork team.
- 3-3.21 Maintain the survey's documents and tools including forms, manuals, circulars, maps and devices.
- 3-3.22 Create a mechanism of receiving and submitting survey's documents, tools, and devices from the fieldwork team
- 3-3.23 Create a database of the respondents contact information especially in the economic surveys.
- 3-3.24 Send a thanks messages to the respondents after the survey is concluded for their cooperation and providing the required data and honor the distinguished respondents during DSC annual ceremony.
- 3-3.25 Assess the fieldwork team based on predefined bases to keep the good persons and replace the weak team members in the next surveys.
- 3-4 Review and audit the field data to assure the inclusiveness



This process aims to control the collected data and detect errors to be rectified in the field and that is conducted through:

- 3-4.1 Create field audit rules to be used by the surveyors
 during and after the interviewing the respondent to
 assure that the required data is properly completed and
 no blank fields are left in the questionnaire.
- 3-4.2 Create field audit rules to be used by the observation and supervision team in auditing the questionnaire at the head office to avoid any defect or error through examining the data collection sample.
- 3-4.3 Supervisor shall check the form in the field directly and continuously and approve the correct questionnaire and return the forms that contain errors to the surveyors to be corrected according to a predefined mechanism.
- 3-4.4 Checking the internal consistency of data with the concerned technical departments.
- 3-4.5 Extract non-consistency cases and errors on its geographical at the level of the surveyor, supervisor, and observer.
- 3-4.6 Obtain, analyze, and report the difficult information of the respondent.
- 3-4.7 Measure the response, refusal and non-consistency rates.
- 3-4.8 Create a methodology to re-interview a sample of the respondents to assure the data accuracy
- 3-4.9 Issue a circulation to the fieldwork team with the most



common errors and how they are rectified to avoid them in future.

3-5 Developing a system to save the questionnaires

- To maintain that it is saved properly and protected from being lost, damaged, and leaked, that is conducted through the following:
- 3-5.1 Create a mechanism to follow-up the questionnaire movement between the work stages.
- 3-5.2 Questionnaire process are data entry, auditing, coding processes, finally storing, and archiving the questionnaire. This process ensures the data confidentiality and questionnaire protection against any lost or damage.
- 3-5.3 Store and save the questionnaire to be easily accessed.
- 3-5.4 Develop procedures to ensure storing the questionnaire according to appropriate conditions that assure protecting it from any damage.
- 3-5.5 Create a database of the stored questionnaires including the questionnaire number, survey name and year, storage date, and recipient name...etc.
- 3-5.6 Mark the files that contain files and questionnaire details for ease of reference.
- 3-5.7 A supervisor or an official responsible person of archiving and storing the questionnaire should organize the process of accessing, retrieving, and arranging.



4 Data preparing stage

This stage is one of the significant stages of the statistical survey that should be carefully implemented due to its direct impact on the data accuracy and quality. As it leads to the final data collection that would be analyzed, and disseminated and that includes the following processes:

4-1 Data coding:

(This stage may be overlapped with data collection stage).

This stage giving a specified codes or numbers for the script answers according to the predesigned system that gives each answer its own code. Coding process is usually conducted before the data entry process by a trained employee with a good knowledge of using the relevant manuals and classifications. The following shall be considered in the coding process:

- Prepare standardized coding manuals across the smart statistical system or at least across DSC to be consistent with international, regional, and national manuals to facilitate the benchmark processes.
- Create a training manual for coders and set an





appropriate training sessions for them by coding specialists.

- Create lists of the most common and repeated cases to facilitate the coding process.
- Use the coding serial numbers while data collecting to provide a field that been coded for reviewing.
- In case of automated coding during data collection, a field (text box) should be available to describe the coded field for reviewing.
- Use the automated coding to reduce the cost, save time and increase data accuracy and that requires an intensive training for the automated coding.
- Audit the coding according to the predesigned system that includes coded data sample reviewing and implementing the consistency rules to test the coding accuracy.
- Use specific symbols and values to find the missing values from the actual data in the database to avoid confusion between them.

4-2 Data entry:

It is transferring data and information from the questionnaires to the electronic files through specialized data entry systems and this includes transferring the data from paper questionnaire to the computers through manual or automated data entry by using scanner or handheld devices. Data entry process can be directly implement in to the electronic devices through data collection stage. The following conceded in the data entry process:



- Test the data entry systems before using them to implement the improvements according to the test results.
- Provide an appropriate training, data entry documents and manuals for the data entry employees.
- Follow-up the daily progress achieved and error rates for data entry employees
- Prepare a form for receiving and submitting the entered questionnaires
- Provide a proper instructions and consistency rules in case of the questionnaire been filled by the respondent to assure the data entry.
- Use a different colors to write data entry employees' notes on the form if possible.
- In case of using the scanner for data entry there should be employees provided to enter the damaged questionnaire data. It is preferred to enter some questionnaire manually to be compared with the scanned once.
- Assure providing a consistency rules to balance between the accuracy entered data and the time of data collection. In case of electronic data entry process been implemented.
- A comprehensive review of the data entry should be compared with the paper questionnaire data to help



- in detecting and analyzing data entry errors and identify improving techniques for that process.
- Implement safety and protection procedures on the entered data, so that the authorized persons are allowed to access the database.
- Create a periodically backup copy of the entered data and save an original copy before any modifications.

4-3 Data auditing

Questionnaire and databases auditing is conducted according to the validation rules that been designed for the preparation stage. The following shall be considered in the auditing process:

- Audit the questionnaire data once received it from the field and before they are coded or entered according to the predesigned technical review rules to correct the errors in a different colors.
- Keep an original copy of the entered data before making any modifications.
- Implement the validation rules to the database to detect and rectify the errors, missing values and irrational data.
- Controls the editing and processing procedures.
- Classify the non-response cases and the response errors to create a correcting



mechanism.

- Identify error sources and types to edit it according to the predefined data auditing mechanism.
- Use the three auditing techniques levels (MICRO, MESO, MACRO) to help in detect and rectify the errors.
- Review the irrational data consistency and the averages and ratios of the different variables.
- Compare the results with a similar data sources and the previous survey results to assure the irrationality consistent of the data.
- 4-4 Compensation of the missing and error values (contact the concerned department)
- 4-5 Designing weights and sample expanding
 results (contact
 the concerned department / expanding sample
 methodology)

(contact the concerned department)

- 4-6 Managing the non-response situations and calculating error indicators
- 5- Results analysis stage (contact



the concerned department) This stage is executed through the following processes:

5-1 Calculating the indicators and results

In this stage the final results of the survey are formed as indicators and statistics that describe the economic, social, demographic, or environmental phenomena. Accordingly the results should be accurate and the following shall be considered while calculating the indicators and having the final results:

- Review the survey methodologies to concern identifying the analysis techniques.
- Use the predesigned systems to calculate the indicators.
- Implement the approved mathematical equations and formulas to calculating the indicators.
- Assure that the received data are consistent and been compared with the previous survey results.
- Clarity of the results tables and being easy to understood and interpreted
- Analysis shall depend on the data not on expectations and assumptions
- provide the measurement units clearly in the tables
- Use the graphs to present the results
- Use predesigned tables and indicators as survey indicators
- Study the seasonal impact on the data, and in case of having some impacts it is recommended to analyze a long time series according to the nature of survey.

5-2 Preparing the survey report:

The following shall be considered while preparing the survey report:



- Conceder the need of the data users' requirements while preparing the final report.
- The report language should be convenient to the target community.
- The report includes the related information of the analysis techniques and the tools used in calculating the indicators.
- Arrange the information according to its importance and in a logical sequence.
- The report includes the main results and graphs to clarify the results.
- The report shall include the metadata of the definitions used in the survey to help in understanding and interpreting the results.
- Review the report precisely before printing or dissemination.

6- Results dissemination stage

Providing the survey data for the users through different dissemination ways, in addition to circulating the metadata to help in understanding and interpreting the results. This stage includes the following processes:

6-1 Disseminating and providing the results to the users through different ways.

The following procedures shall be taken into account:

- Review the results before the dissemination.
- Provide the results in different presentation methods such as seminars, workshops, press conferences, reports, websites, books, and magazines.



- Identify the statistical calendar in consultation with the data users in order to set the priorities in advance and disseminate the data accordingly.
- Assure that the published data in the newspapers and magazines are consistent with the center data.
- Opinion survey of the data users and their satisfaction with the disseminated data and conceder their comments for the improvements plans.
- Notify the data users of any modification in the disseminated data.
- Provide the disseminated data for different users without bias.
- Assure the flexibility of providing the statistical data if requested.

6-2 Disseminate the definitional metadata to help in understanding and utilizing the results, and it includes the following:

- Disseminate metadata that explains the used definitions and the indicators calculation to help in understanding and utilizing the results by the users.
- Organize a workshops and introductory sessions to clarify and explain the disseminated statistics

6-3 Protecting the confidentiality of published data

- Define data confidentiality.
- Refer to law-related articles to protect data confidentiality of individuals and entities.
- Implement the articles which are related to data confidentiality.
- Verify principles of guidance and laws related to data disclosure



- Inform the respondents continuously to maintain their personal data private and confidential.
- Personal data collected from the census, surveys and provided database shall not be shared with any other entity.
- Raise awareness among all official statistical employees in advance of the importance on maintaining the personal data confidential and the penalties associated with disclosing the confidential data.

7- Survey evaluation stage

7-1 Evaluating survey processes and results

Survey evaluation stages must be conducted with transparency and clarity with the participation of the team work to monitor the quality procedures and calculate its indicators, in order to evaluate the survey final outputs based on approved quality aspects and standards.

Evaluation process considers the following:

- Assure the implementation of procedures by the surveyors in the quality manual.
- Evaluation process contains quality procedures, areas of improvement and quality indicators.
- The results of survey evaluation must be clear, available and convenient to improve the performance in the future.
- Provide survey data quality report and related documents, which



are associated with field survey errors, response burden, refusal rates and sampling errors.

- Calculate data quality indicators in the different stages and compare it with objectives and target values.
- Track the number of requests received by DSC which are related to clarifications of survey results helps to evaluate clarification aspect.
- Survey must be evaluated by neutral party / entity

Is it important to fulfill quality conditions and provide descriptive data for all processes, procedures and concepts of these aspects and make it available for the data users. In addition, this methodology covers all data quality aspects inbound in DSC data quality charter.

References

 Generic Statistical Business Process



Model GSBPM

2. Global Review of the

Implementation of

the Fundamental

Principles of Official

Statistics

3. Guide to Statistical Survey Quality Standards and Processes



