

Data collection methods

Final Project
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Lecture 6



1. An Introduction
2. The concept of population and research sample
3. Reasons for using the sampling method
4. Sample types
 - 1) Random sample (probability)
 - Simple random sample
 - Systematic sample
 - Stratified random sample
 - Cluster random sampling

- 2) Non-random samples
 - Convenience sample
 - Intended sample
 - Quota sample
 - Snowball sample
5. Sample selection steps
6. Specify the sample size

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- 1. Introduction**
- 2. Primary data and secondary data**
- 3. Methods for collecting primary data**
 - Questionnaire.**
 - The interview**
 - Observation**
 - Focus groups.**

By the end of this chapter you will be able to understand the following knowledge:

- Recognize the difference between primary data and secondary data and the sources of each.
- Identify the different methods of data collection (*questionnaire* - *interview* - *observation* - *focus groups*) and their most important advantages and disadvantages.

By the end of this chapter you will possess the following Skills:

- The ability to distinguish between primary data and secondary data.
- The ability to compare different means of collecting primary data.
- Gain the necessary skills to design a good questionnaire.
- Gain the skills needed to conduct an effective interview.
- Gain the skills to conduct unbiased observation.
- Ability to collect data through focus groups method.

It is a systematic process of gathering observations or measurements. Whether you are performing research for business, governmental or academic purposes, data collection allows you to gain first-hand knowledge and original insights into your *research problem*.

While methods and aims *may differ* between fields, the overall process of data collection remains largely the same.

Before you begin collecting data, you need to consider:

- The **aim** of the research
- The **type of data** that you will collect
- The **methods and procedures** you will use to collect, store, and process the data

(Bhandari, P , 2022)

- In the stage of data collection, the researcher must take into consideration two types of data that he can use to identify and analyze the various aspects of the phenomenon, which are ***primary*** data and ***secondary*** data.
- **To collect high-quality data that is relevant to your purposes, follow these four steps.**

Step 1: Define the aim of your research

Step 2: Choose your data collection method

Step 3: Plan your data collection procedures

Step 4: Collect the data

□ Primary Data

«Data that is collected by the researcher directly for the first time about the phenomenon under study»

Sources: observation, interview, questionnaire, and Focus group.

□ Secondary Data

“Information and data collected by someone earlier”

Internal sources:

Data in the company's records (number of employees – the volume of production - profits)

External Sources:

(books - periodicals - bulletins - statistics - reports)

Advantages: including, low cost - speed of obtaining - accuracy -

Disadvantages, including, obsolescence of secondary data, problems of collecting secondary data from several sources,

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1. Questionnaire.
2. Interview
3. Observation
4. focus groups.

Factors influencing the choice of primary data collection method:

- The nature of the research.
- The Research Methodology.
- The definition of the population and sample.
- Researcher's time and financial capabilities.
- Researcher's knowledge of the tool used to collect data.

1. The Questionnaire.

A questionnaire is a research instrument consisting of a set of questions to collect information from a respondent.

Methods of distributing the questionnaire:

1. Direct distribution
2. Regular mail
3. E-mail
4. Website

1. The Questionnaire.

- ❑ **Structured Questionnaires:** Structured questionnaires collect quantitative data. The questionnaire is planned and designed to gather precise information. It also initiates a formal inquiry, supplements data, checks previously accumulated data, and helps validate any prior hypothesis.
- ❑ **Unstructured Questionnaires:** Unstructured questionnaires collect qualitative data. They use a basic structure and questions but nothing that limits the responses of a respondent. The questions are more open-ended to collect specific data from participants.

1. The Questionnaire.

Some of the widely used types of questions are:

A) ***Closed Questions***: in which each question specifies a set of answers.

Such as yes-no questions, multiple-choice questions, or answers.

Examples of these questions:

(1) Do you buy one of the company's products? (Yes / No)

(2) If yes, which of the following is an influencing factor in the purchase of the commodity? (more than one answer can be chosen)

- Price.
- The quality.
- The Packing.
- The color.

1. The Questionnaire.

Multiple-Choice Questions:

Multiple-choice questions are a close-ended question type in which a respondent has to select one (single-select multiple-choice question) or many (multi-select multiple-choice question) responses from a given list of options.

The multiple-choice question consists of an incomplete stem (question), right answer or answers, incorrect answers, close alternatives, and distractors. Of course, not all multiple-choice questions have all of the answer types. For example, you probably won't have the wrong or right answers if you're looking for customer opinion.

1. The Questionnaire.

B. Open-Ended Questions: Open-ended questions help collect qualitative data in a questionnaire where the respondent can answer in a free form with little to no restrictions.

1. The Questionnaire.

Closed-open questions:

Example: What are the appropriate policies to develop the performance of the company's employees?

- Staff training.
- Material incentives.
- Reducing working hours.
- Decentralize decision-making.
- Other

1. The Questionnaire.

Steps Involved in Questionnaire Design

Identify the scope of your research:

Think about what your questionnaire is going to include before you start designing its look of it. The clarity of the topic is of utmost importance as this is the primary step in creating the questionnaire.

Once you are clear on the purpose of the questionnaire, you can begin the design process.

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1. The Questionnaire.

Be flexible with your options:

While designing, the survey creator needs to be flexible in terms of “option choice” for the respondents. Sometimes the respondents may not necessarily want to choose from the answer options provided by the survey creator. An “other” option often helps keep respondents engaged in the survey.

The open-ended or closed-ended question is a tough choice:

If the questionnaire requires the respondents to elaborate on their thoughts, an open-ended question is the best choice. If the surveyor wants a specific response, then close-ended questions should be their primary choice. The key to asking closed-ended questions is to generate data that is easy to analyze and spot trends.

1. The Questionnaire.

It is essential to know your audience:

A researcher should know their target audience. For example, if the target audience speaks mostly Spanish, sending the questionnaire in any other language would lower the response rate and accuracy of data.

Something that may seem clear to you may be confusing to your respondents. Use simple language and terminology that your respondents will understand, and avoid technical jargon and industry-specific language that might confuse your respondents.

1. The Questionnaire.

☐ Questionnaire letter:

A letter from the researcher before starting the questionnaire.

It should include a number of points, including:

- The research problem and objectives.
- The importance of respondent participation.
- The scientific purpose of the questionnaire.
- The type of information required.
- Confidentiality of the information.

1. The Questionnaire.

☐ **Personal data of the respondents:**

Such as age, gender, marital status, income, etc.

☐ **Questionnaire topics:**

Each part includes a set of questions that reflect one of the study variables and help in data collection and analysis.

1. The Questionnaire.

☐ Questionnaire design skills:

- Follow the questions logically
- Avoid embarrassing questions
- Avoid open-ended questions whenever possible
- The validity of the questionnaire questions
- Keywords
- No overlap between alternatives
- Avoid suggestive questions
- Avoid questions that begin with the negative

1. The Questionnaire.

❑ METHODS FOR TESTING AND EVALUATING SURVEY QUESTIONS :

- Small sample
- Experts (arbitrators)
- Validity and reliability tests

2. The Interview.

- ❑ An interview is a qualitative research method that relies on asking questions in order to collect data. Interviews involve two or more people, one of whom is the interviewer asking the questions.
- ❑ There are several types of interviews, **Interview types:**
 - ✓ Structured interviews have predetermined questions asked in a predetermined order.
 - ✓ Unstructured interviews are more free-flowing.
 - ✓ semi-structured interviews fall in between.

Interview types:

Personal interview - Telephone interview - Computer interview.

Effective Interviewing Skills:

- ✓ Define the purpose of the interview, such as: setting and introducing the interview objectives.
- ✓ Pre-interview preparation, such as identification of persons and entities involved in the interview - identification and preparation of a list of questions.....

2. The Interview

- ✓ Implementation and conduct of the interview, such as:

Inform people for the purpose of the interview - Set an appropriate date - Speak out loud - Avoid denying the respondent

- ✓ Record information, such as:

Recording information with the same words used - Informing the respondent of recording the interview -

.....

3. The Observation

- ❑ Watching and carefully observing a certain behavior or phenomenon under certain environmental conditions and factors for the purpose of obtaining accurate information to diagnose this behavior or phenomenon and to determine the relationship between variables and predict their behavior in the future.
- ❑ **Observation types:**
 - Simple Observation
 - Structured observation

3. The Observation

□ The observation process, including:

- Determining the goal.
- Identify the persons involved.
- Determine the time period
- Time and Place
- Observation tools

4. The Focus Group

- ✓ A group that usually consists of 7 to 10 people (experts) with a general supervisor
- ✓ Discussions aimed at exchanging ideas and observations.
- ✓ Low-cost method
- ✓ Provides descriptive data, not quantitative data
- ✓ It is difficult to perform statistical operations on this data.



Thank You