

DATA COLLECTION

Data Collection is an important aspect of any type of research study. Inaccurate data collection can impact the results of a study and ultimately lead to invalid results. **Data collection** is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study including physical and social sciences, humanities, business, etc. While methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same.

Data collection methods for impact evaluation vary along a continuum. At one end of this continuum are quantitative methods and at the other end of the continuum are Qualitative methods for data collection.

In collecting the data, the researcher must decide:

1. Which data to collect
2. How to collect the data
3. Who will collect the data
4. When to collect the data

The selection of the chosen data collection method should be based on the following:

1. The identified hypothesis or research problem.
2. The research design
3. The information gathered about the variables being studied.

The methods of data collection vary according to:

1. The degree of structure
2. Degree of quantify-ability
3. Degree of obtrusive
4. Degree of objectivity

Different ways of collecting evaluation data are useful for different purposes, and each has advantages and disadvantages. Various factors will influence your choice of a data collection method: the questions you want to investigate, resources available to you, your timeline, and more.

Quantitative data collection methods

They rely on random sampling and structured data collection instruments that fit diverse experiences into predetermined response categories. They produce results that are easy to summarize, compare, and generalize. Quantitative research is concerned with **testing hypotheses** derived from theory and/or being able to estimate the size of a phenomenon of interest. Depending on the research question, participants may be randomly assigned to different treatments. If this is not feasible, the researcher may collect data on participant and situational characteristics in order to statistically control for their influence on the dependent, or outcome, variable. If the intent is to generalize from the research participants to a larger population, the researcher will employ probability sampling to select participants.

Typical quantitative data gathering strategies include:

- Experiments/clinical trials.
- Observing and recording well-defined events (e.g., counting the number of patients waiting in emergency at specified times of the day).
- Obtaining relevant data from management information systems.
- Administering surveys with closed-ended questions (e.g., face-to face and telephone interviews, questionnaires etc).

Qualitative data collection methods

They play an important role in impact evaluation by providing information useful to understand the processes behind observed results and assess changes in people's perceptions of their well-being. Furthermore qualitative methods can be used to improve the quality of survey-based quantitative evaluations by helping generate evaluation hypothesis; strengthening the design of survey questionnaires and expanding or clarifying quantitative evaluation findings. These methods are characterized by the following attributes:

- they tend to be open-ended and have less structured protocols (i.e., researchers may change the data collection strategy by adding, refining, or dropping techniques or informants)
- they rely more heavily on interactive interviews; respondents may be interviewed several times to follow up on a particular issue, clarify concepts or check the reliability of data
- they use triangulation to increase the credibility of their findings (i.e., researchers rely on multiple data collection methods to check the authenticity of their results)
- generally their findings are not generalizable to any specific population, rather each case study produces a single piece of evidence that can be used to seek general patterns among different studies of the same issue

Regardless of the kinds of data involved, data collection in a qualitative study takes a great deal of time. The researcher needs to record any potentially useful data thoroughly, accurately, and systematically, using field notes, sketches, audiotapes, photographs and other suitable means. The data collection methods must observe the ethical principles of research.

The qualitative methods most commonly used in evaluation can be classified in three broad categories:

- **indepth interview**
- **observation methods**
- **document review**