# QUANTITATIVE DATA COLLECTION TOOLS

## What are they?

Quantitative data collection tools collect data that can be counted and subjected to [statistical analysis.](https://mealdprostarter.org/n-data-analysis-visualization-and-interpretation/) Examples of common quantitative tools are:

* Surveys
* Questionnaires
* Observation checklists
* Physical tests.

Quantitative data helps teams track progress towards targets, make informed decisions, report to donors and communicate to communities.

## How do I use them?

First, check your [Performance Management Plan (PMP).](https://mealdprostarter.org/f-performance-management-plan/) The PMP identifies the indicators that require quantitative data and the corresponding quantitative data collection tool you will need. For example, an indicator stating that “30 latrines have soap and water present” may use an observation checklist to gather this monitoring data.

Then, design or adapt your tool.

Before you build tools from scratch, always look for existing questionnaires, checklists, or tests that can be adapted to your specific purpose.

Keep in mind that good quantitative tools follow a logical flow that makes sense to the person administering it, and to anyone who might be responding to questions. Tools should always begin with an introduction outlining the purpose of the data collection efforts, the ethical norms that govern the use of the tool and the data collected, and how the data will be used.

The next section of a quantitative data collection tool focuses on the questions themselves. Questions from quantitative data collection tools are most often closed-ended questions and are asked in a pre-planned logical order.

**Closed-ended questions** require respondents to reply using a limited number of answers. Question types include numerical, two-option response, multiple choice, and rating/Likert scales.

Questionnaires often include “skip logic” sequencing, allowing the respondent to skip irrelevant sections when necessary.

Finally, end your quantitative tool with a conclusion, thanking the respondent for their time and allowing them to ask questions.

Before you use any quantitative data collection tool, make sure to follow these steps:

* Step 1: Translate the tool into any local languages required
* Step 2: Train staff and test the tool
* Step 3: Revise and finalize your tool based on the results of your testing
* Step 4: Plan for implementation and data management.

These data collection plans should consider both timing and location. Also, plans should detail the specifics of data entry and cleaning, data quality checks, data storage and protection, and data privacy.

## When do I use them?

Quantitative data collection tools are used for both project monitoring and project evaluation data collection efforts. For example, an observation checklist might be used on a monthly basis to count distribution levels or class attendance. [Evaluations](https://mealdprostarter.org/g-evaluation-plan/), mostly conducted at the mid-term or end of a project, often include questionnaires that collect data in accordance with the evaluation questions.

No matter the timing of the tool, remember to allocate enough time for the design, testing, and implementation of the tool. Managing data (entering, cleaning, quality checking, etc.) so that it can be analyzed can take more time than expected. Thus, always ensure that your quantitative data collection efforts are incorporated into the overall project implementation plan.

## Tips

### Keep it Simple

Remember that data collection is time consuming and expensive. Show respect to respondents and save resources by keeping your tools simple, efficient, and short. Make sure that your checklists and questionnaires focus only on the information required in the PMP.

**Use of different question types**

To conduct quantitative research, close-ended questions have to be used in a survey. They can be a mix of multiple question types including multiple-choice questions like semantic differential scale questions, rating scale questions, etc.

**Survey Distribution and Survey Data Collection**

In the above, we have seen the process of building a survey along with the survey design to conduct primary quantitative research. Survey distribution to collect data is the other important aspect of the survey process. There are different ways of survey distribution. Some of the most commonly used methods are:

· **Email:** Sending a survey via email is the most widely used and most effective method of survey distribution. The response rate is high in this method because the respondents are aware of your brand. You can use the QuestionPro email management feature to send out and collect survey responses.

· **Buy respondents:** Another effective way to distribute a survey and conduct primary quantitative research is to use a sample. Since the respondents are knowledgeable and are on the panel by their own will, responses are much higher.

· **Embed survey on a website:** Embedding a survey in a website increases a high number of responses as the respondent is already in close proximity to the brand when the survey pops up.

· **Social distribution:** Using social media to distribute the survey aids in collecting a higher number of responses from the people that are aware of the brand.

· **QR code:** QuestionPro QR codes store the URL for the survey. You can print/publish this code in magazines, on signs, business cards, or on just about any object/medium.

· **SMS survey:** A quick and time-effective way of conducting a survey to collect a high number of responses is the SMS survey.

· **QuestionPro app:** The QuestionPro App allows users to circulate surveys quickly, and the responses can be collected both online and offline.

**Survey example**

An example of a survey is short customer satisfaction (CSAT) survey template that can quickly be built and deployed to collect feedback about what the customer thinks about a brand and how satisfied and referenceable the brand is.

· **Using polls for primary quantitative research**

Polls are a method to collect feedback with the use of close-ended questions from a sample. The most commonly used types of polls are election polls and exit polls. Both of these are used to collect data from a large sample size but using basic question types like a multiple-choice question.

#### C. Data analysis techniques

The third aspect of primary quantitative research design is data analysis. After the collection of raw data, there has to be an analysis of this data to derive statistical inferences from this research. It is important to relate the results to the objective of research and establish the statistical relevance of results.

It is important to consider aspects of research which were not considered for the data collection process and report the difference between what was planned vs. what was actually executed.

It is then required to select precise statistical analysis methods such as SWOT, Conjoint, Cross-tabulation, etc. to analyze the quantitative data.

· **SWOT analysis:** SWOT Analysis stands for the acronym of Strengths, Weakness, Opportunities, and Threat analysis. Organizations use this statistical analysis technique to evaluate their performance internally and externally to develop effective strategies for improvement.

· **Conjoint Analysis:** Conjoint Analysis is a market analysis method to learn how individuals make complicated purchasing decisions. Trade-offs are involved in the daily activities of an individual, and these reflect their ability to decide from a complex list of product/service options.

· **Cross-tabulation:** Cross-tabulation is one of the preliminary statistical market analysis methods which establishes relationships, patterns, and trends within the various parameters of the research study.

· **TURF Analysis:** TURF Analysis, an acronym for Totally Unduplicated Reach and Frequency Analysis, is executed in situations where the reach of a favorable communication source is to be analyzed along with the frequency of this communication. It is used for understanding the potential of a target market.

Inferential statistics methods such as confidence interval, margin of error, etc. can then be used to provide results.

### Secondary quantitative research methods

Secondary quantitative research or desk research is a research method that involves using already existing data or secondary data. Existing data is summarized and collated to increase the overall effectiveness of research.

This research method involves the collection of quantitative data from existing data sources like the internet, government resources, libraries, research reports, etc. Secondary quantitative research helps to validate the data that is collected from primary quantitative research as well as aid in strengthening or proving or disproving previously collected data.

Following are five popularly used secondary quantitative research methods:

1. **Data available on the internet:** With the high penetration of internet and mobile devices, it has become increasingly easy to conduct quantitative research using the internet. Information about most research topics is available online, and this aids in boosting the validity of primary quantitative data as well as proving the relevance of previously collected data.

2. **Government and non-government sources:** Secondary quantitative research can also be conducted with the help of government and non-government sources that deal with market research reports. This data is highly reliable and in-depth and hence, can be used to increase the validity of quantitative research design.

3. **Public libraries:** Now a sparingly used method of conducting quantitative research, it is still a reliable source of information though. Public libraries have copies of important research that were conducted earlier. They are a storehouse of valuable information and documents from which information can be extracted.

4. **Educational institutions:** Educational institutions conduct in-depth research on multiple topics, and hence, the reports that they publish are an important source of validation in quantitative research.

5. **Commercial information sources:** Local newspapers, journals, magazines, radio, and TV stations are a great source to obtain data for secondary quantitative research. These commercial information sources have in-depth, first-hand information on economic developments, political agenda, market research, demographic segmentation, and similar subjects.

### Quantitative research characteristics

Some distinctive characteristics of quantitative research are:

· **Structured tools:** Structured tools such as surveys, polls, or questionnaires are used to gather quantitative data. Using such structure methods helps in collecting in-depth and actionable data from the survey respondents.

· **Sample size:** Quantitative research is conducted on a significant sample size that represents the target market. Appropriate sampling methods have to be used when deriving the sample to fortify the research objective

· **Close-ended questions:** Closed-ended questions are created per the objective of the research. These questions help collect quantitative data and hence, are extensively used in quantitative research.

· **Prior studies:** Various factors related to the research topic are studied before collecting feedback from respondents.

· **Quantitative data:** Usually, quantitative data is represented by tables, charts, graphs, or any other non-numerical form. This makes it easy to understand the data that has been collected as well as prove the validity of the market research.

· **Generalization of results:** Results of this research method can be generalized to an entire population to take appropriate actions for improvement.

### Quantitative research examples

Some examples of quantitative research are:

1. If any organization would like to conduct a customer satisfaction (CSAT) survey, a customer satisfaction survey template can be used. Through this survey, an organization can collect quantitative data and metrics on the goodwill of the brand or organization in the mind of the customer based on multiple parameters such as product quality, pricing, customer experience, etc. This data can be collected by asking a net promoter score (NPS) question, matrix table questions, etc. that provide data in the form of numbers that can be analyzed and worked upon.

2. Another example of quantitative research is an organization that conducts an event, collecting feedback from the event attendees about the value that they see from the event. By using an event survey template, the organization can collect actionable feedback about satisfaction levels of customers during various phases of the event such as the sales, pre and post-event, the likelihood of recommending the organization to their friends and colleagues, hotel preferences for the future events and other such questions.

### Advantages of quantitative research

There are many advantages of quantitative research. Some of the major advantages of why researchers use this method in market research are:

· **Collect reliable and accurate data:** As data is collected, analyzed, and presented in numbers, the results obtained will be extremely reliable. Numbers do not lie. They offer an honest picture of the conducted research without discrepancies and is also extremely accurate. In situations where a researcher predicts conflict, quantitative research is conducted.

· **Quick data collection:** A quantitative research is carried out with a group of respondents who represent a population. A survey or any other quantitative research method applied to these respondents and the involvement of statistics, conducting, and analyzing results is quite straightforward and less time-consuming.

· **Wider scope of data analysis:** Due to the statistics, this research method provides a wide scope of data collection.

· **Eliminate bias:** This research method offers no scope for personal comments or biasing of results. The results achieved are numerical and are thus, fair in most cases.

### **Best practices to conduct quantitative research**

Here are some best practices to conduct quantitative research

· Differentiate between quantitative and qualitative: Understand the difference between the two methodologies and apply the one that suits your needs best.

· Choose a suitable sample size: Ensure that you have a sample representative of your population and large enough to be statistically weighty.

· Keep your research goals clear and concise: Know your research goals before you begin data collection to ensure you collect the right amount and the right quantity of data.

· Keep the questions simple: Remember that you will be reaching out to a demographically wide audience. Pose simple questions for your respondents to understand easily.

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