**What is quantitative data?**

Qualitative and differ in their approach and the type of data they collect.

Quantitative data refers to any information that can be quantified — that is, numbers. If it can be counted or measured, and given a numerical value, it's quantitative in nature. Think of it as a measuring stick.

Quantitative variables can tell you "how many," "how much," or "how often."

**Some examples of quantitative data**:

* How many people attended last week's webinar?
* How much revenue did our company make last year?
* How often does a customer [rage click](https://www.fullstory.com/blog/rage-clicks-turn-analytics-into-actionable-insights/) on this app?

To analyze these research questions and make sense of this quantitative data, you’d normally use a form of [statistical analysis](https://www.sas.com/en_us/insights/analytics/statistical-analysis.html)—collecting, evaluating, and presenting large amounts of data to discover patterns and trends. Quantitative data is conducive to this type of analysis because it’s numeric and easier to analyze mathematically.

### What is quantitative research?

It’s all about the numbers. Quantitative research is based on the collection and interpretation of numeric data. It focuses on measuring (using [inferential statistics](https://www.myaccountingcourse.com/accounting-dictionary/inferential-statistics)) and generalizing results.

In terms of digital experience data, it puts everything in terms of numbers (or [discrete data](https://www.isixsigma.com/dictionary/discrete-data/))—like the number of users clicking a button, [bounce rates](https://www.fullstory.com/bounce-rate/), time on site, and more.

**Some examples of quantitative research:**

* What is the amount of money invested into this service?
* What is the average number of times a button was [dead clicked](https://www.fullstory.com/blog/list-your-top-rage-clicks-and-dead-clicks/)?
* How many customers are actually clicking this button?

Essentially, quantitative research is an easy way to see what’s going on at a 20,000-foot view.

Each data set (or customer action, if we’re still talking digital experience) has a numerical value associated with it and is quantifiable information that can be used for calculating statistical analysis so that decisions can be made.

You can use [statistical operations](https://www.statisticshowto.com/operational-statistics-definition/#:~:text=In%20general%2C%20the%20term%20%E2%80%9COperational,example%2C%20a%20production%20line).) to discover feedback patterns (with any representative sample size) in the data under examination. The results can be used to make predictions, find averages, test causes and effects, and generalize results to larger measurable data pools.

## What is qualitative data?

Unlike quantitative data, qualitative data is descriptive, expressed in terms of language rather than numerical values.

Qualitative data analysis describes information and cannot be measured or counted. It refers to the words or labels used to describe certain characteristics or traits.

You would turn to qualitative data to answer the "why?" or "how?" questions. It is often used to investigate open-ended studies, allowing participants (or customers) to show their true feelings and actions without guidance.

Think of qualitative data as the type of data you’d get if you were to ask someone why they did something. Popular data collection methods are in-depth interviews, focus groups, or observation.

### What is qualitative research?

Qualitative research does not simply help to collect data. It gives a chance to understand the trends and meanings of natural actions. It’s flexible and iterative.

Qualitative research focuses on the qualities of users—the actions that drive the numbers. It's descriptive research. The qualitative approach is subjective, too.

It focuses on describing an action, rather than measuring it.

**Some examples of qualitative research:**

* The sunflowers had a fresh smell that filled the office.
* All the bagels with bites taken out of them had cream cheese.
* The man had blonde hair with a blue hat.

## What are the differences between qualitative vs. quantitative data?

When it comes to conducting data research, you’ll need different collection, hypotheses and analysis methods, so it’s important to understand the key differences between quantitative and qualitative data:

* **Quantitative data** is numbers-based, countable, or measurable. **Qualitative data** is interpretation-based, descriptive, and relating to language.
* **Quantitative data** tells us how many, how much, or how often in calculations. **Qualitative data** can help us to understand why, how, or what happened behind certain behaviors.
* **Quantitative data** is fixed and universal. **Qualitative data** is subjective and unique.
* **Quantitative research** methods are measuring and counting. **Qualitative research** methods are interviewing and observing.
* **Quantitative data** is analyzed using statistical analysis. **Qualitative data** is analyzed by grouping the data into categories and themes.

|  |  |
| --- | --- |
| **Qualitative data (Categorical)**  | **Quantitative Data (Numerical)** |
| Gender | Age |
| Religion | Height |
| Marital Status | Weight |
| Native Language | Income |
| Social Caste | University size |
| Qualification | Group size |
| Types of instruction | Self-efficacy test score |
| Method of treatment | Percentage of lecture attended |
| Types of teaching approach | Clinical skills performed |
| Problems-solving strategy | Number of erros |
|  |  |
| **Advantages of quantitative data** | **Disadvantages of quantitative data** |
| * It’s relatively quick and easy to collect and it’s easier to draw conclusions from.
 | * Quantitative data doesn’t always tell you the full story (no matter what the perspective).
 |
| * When you collect quantitative data, the type of results will tell you which statistical tests are appropriate to use.
 | * With choppy information, it can be inconclusive.
 |
| * As a result, interpreting your data and presenting those findings is straightforward and less open to error and subjectivity.
 | * Quantitative research can be limited, which can lead to overlooking broader themes and relationships.
 |
| Another advantage is that you can replicate it. Replicating a study is possible because your data collection is measurable and tangible for further applications. | * By focusing solely on numbers, there is a risk of missing larger focus information that can be beneficial.
 |
|  |  |
| **Advantages of qualitative data** | **Disadvantages of qualitative data** |
| * Qualitative data offers rich, in-depth insights and allows you to explore context.
 | * It’s not a statistically representative form of data collection because it relies upon the experience of the host (who can lose data).
 |
| * It’s great for exploratory purposes.
 | * It can also require multiple data sessions, which can lead to misleading conclusions.
 |
| * Qualitative research delivers a predictive element for continuous data.
 | The takeaway is that it’s tough to conduct a successful data analysis without both. They both have their advantages and disadvantages and, in a way, they complement each other.  |