

How do you analyze qualitative data?

Developing a systematic approach for analyzing qualitative data is critical. There are four major steps to this process.

<p>Reviewing data</p>	<p>Before beginning any analysis, it's important to understand the data that has been collected by reviewing it several times.</p> <p>If data consists of interview transcripts, for example, they need to be read and re-read to gather a general understanding of the content. First impressions of the data should be noted as these initial responses may be useful during interpretation.</p>
<p>Organizing data</p>	<p>Qualitative data sets tend to be very lengthy and complex. Once it's been reviewed, it needs to be organized so that it's more manageable and can be navigated with ease. This step often saves time and energy later. Depending on what evaluation questions need to be answered, there are a variety of ways to group data, including by date, by data collection type (such as focus group vs. interview), or by question asked.</p>
<p>Coding data</p>	<p>Coding is the process of identifying and labeling themes within data that correspond with the evaluation questions. Themes are common trends or ideas that appear repeatedly throughout the data. They may appear only after the data has been read and reviewed several times.</p>
<p>Interpreting data</p>	<p>Interpretation involves attaching meaning and significance to data. Start by making a list of key themes, then factor in any initial responses that were noted during data review.</p>

While analyzing qualitative data it's important to continuously ask the following types of questions:

- **What patterns/common themes emerge around specific items in the data?**
 - How do these patterns (or lack thereof) help to shed light on the broader evaluation question(s)?
- **Are there any deviations from these patterns?**
 - If, yes, what factors could explain these atypical responses?
- **What interesting stories emerge from the data?**
 - How can these stories help to shed light on the broader evaluation question?
- **Do any of the patterns/emergent themes suggest that additional data needs to be collected?**
 - Do any of the study questions need to be revised?
- **Do the patterns that emerge support the findings of other corresponding qualitative analyses that have been conducted?**

Below is a loosely structured guide for the steps to take when analyzing qualitative data. It's important to note that qualitative data analysis is an ongoing, fluid, and cyclical process that happens throughout the data collection stage of an evaluation project and carries over to the data entry and analysis stages.

Although the steps listed below are somewhat sequential they don't always (and sometimes shouldn't) happen in isolation of each other.

Step 1: Process and Record Data Immediately

As soon as data is collected it's critical that it be immediately processed and any detailed notes recorded. These notes could include:

- Things that stuck out during the data collection process
- Time/date details
- Other observations
- Highlights from the interaction

Completing this step while the interaction is still fresh is important to ensure thoughts and reactions are documented as accurately as possible.

TIP: It's helpful to make a reflection sheet template to be completed after each interaction so that notes are standardized across all data collection points.

Step 2: Begin Analyzing as Data is Being Collected

Qualitative data analysis should begin as soon as data collection begins.

From the moment the first piece of data is collected, the review of the data starts, allowing for it to be mentally processed for themes or patterns as they emerge. Doing this early means there will be a focus on these patterns and themes as they appear in subsequent data collected.

Step 3: Data Reduction

Qualitative studies generally produce a wealth of data but not all of it is meaningful. What follows data collection is a reduction process to identify and focus in on what is meaningful. This is the process of reducing and transforming raw data.

It's an evaluator's job to comb through the raw data to determine what is significant and transform the data into a simplified format that can be understood in the context of the research questions. When trying to figure out what data is meaningful, the research questions form the framework. At this stage in the process, the evaluator can use their intuition as well as the expertise of other individuals with a thorough understanding of the program.

This step doesn't happen in isolation, it naturally occurs during the first two steps. Data reduction is already happening with efforts to only record what was felt to be most meaningful, usable, and relevant during a data collection interaction. Data is also reduced by looking for themes from the beginning. This process helps the evaluator hone in on specific patterns and themes of interest while not focusing on other aspects of the data.

The process of data reduction, however, must go beyond the data collection stage. Evaluators must take time to carefully review all of the data that has been collected as a whole.

Step 4: Identifying Meaningful Patterns and Themes

In order for qualitative data to be analyzable it must first be grouped into the meaningful patterns and/or themes that were observed. This process is the core of qualitative data analysis.

This process is generally conducted as either a Content analysis or a Thematic analysis.

The type of analysis is highly dependent on the nature of the research questions and the type(s) of data collected. Sometimes an evaluation study will use one type of analysis and other times, it may use both types

Content analysis is carried out by:

1. Coding the data for certain words or content
2. Identifying their patterns
3. Interpreting their meanings.

This type of coding is done by going through all of the text and labeling words, phrases, and sections of text (either using words or symbols) that relate to the research questions of interest. After the data is coded it can be sorted and examined by code to look for patterns.

Thematic analysis is carried out by grouping the data into themes that will help answer the research question(s). These themes may be:

- Directly evolved from the research questions and were pre-set before data collection began, or
- Naturally emerged from the data as the evaluation was conducted.

Once themes have been identified, it's useful to group the data into thematic groups so that their meaning can be analyzed and connected back to the research question(s).

Step 5: Data Display

After identifying themes or content patterns, the data needs to be assembled, organized, and compressed into a display that facilitates conclusion drawing. The display can be a graphic, table/matrix, or textual display.

Regardless of what format is chosen, it should enable thinking about the data in new ways and should assist in identifying systematic patterns and interrelationships across themes and/or content. It should also be possible to identify patterns and relationships observed within groups and across groups.

Step 6: Conclusion Drawing and Verification

This is the final step in qualitative data analysis.

The process of drawing reasonable conclusions involves:

1. Stepping back and interpreting what all of the findings mean
2. Determining how these findings help answer the research question(s)
3. Drawing implications from the findings

These conclusions are verified by revisiting the data (multiple times) as confirmation.

Interpreting results and drawing conclusions

While data analysis can help identify key findings, the results will still need to be interpreted. In assessing the implications of these conclusions, the following questions can be helpful:

1. *What patterns and themes emerged?*
2. *Are there any deviations from these patterns? If yes, are there factors that might explain these deviations?*
3. *Do the results make sense?*
4. *Are there findings that are surprising? If so, how can they be explained?*
5. *Are the results significant from a clinical or statistical standpoint? Are they meaningful in a practical way?*
6. *Do any interesting stories emerge from the responses?*
7. *Do the results suggest any recommendations for improving the program?*
8. *Do the results lead to additional questions about the program? Do they suggest that additional data may be needed?*



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While findings must be reported objectively, interpreting the results and reaching conclusions can be challenging.

TIP: Consider including key stakeholders in this process by reviewing findings and preliminary conclusions with them prior to writing a formal report.

Practical value vs statistical significance

Don't be discouraged if the evaluation doesn't obtain statistically significant results. While a lack of significance may suggest that a program wasn't effective, there may be other factors involved. The chosen outcome measure may have been too ambitious, such as a behavioral change that takes longer to emerge.

In interpreting the results, it's helpful to be open to a variety of explanations. It's also important to consider the practical significance of the findings. Some statistically significant results are not helpful in guiding program enhancements, while some "insignificant" findings end up being useful.

Adapted from: Wilder Research, Organizing and Analyzing Your Data

