

SSI POV: Online

Sample Size Calculation

Note: In this document “sample size” refers to the number of completed interviews.

- **How big does your sample size need to be in order to get results that accurately reflect your target population?**
- **The answer depends on two things:**
 - **How accurate do you want your answer to be?**
(This is the confidence interval.)
 - **How confident / certain do you want to be of the accuracy?**
(This is the confidence level.)

Confidence Interval

The confidence interval is the “+/-” figure reported in survey results. A commonly-used confidence interval is 3. This means that if 54% of your particular sample answers in a certain way, you can be reasonably certain that if you had asked the entire population the same question, between 51% and 57% would have answered the same way. (i.e. 54% +/- 3%)

Confidence Level

How sure can you be that this would be the case? That is determined by the Confidence Level. A commonly-used confidence interval is 95%. This means that in 95% of cases, if you re-surveyed using a fresh sample of the same size, that sample should give an answer within your confidence interval.

To summarize, you may want your answer to be accurate to within 3% points either way, and may want to be 95% certain that the answer you get is within that +/- 3% range. If you want to be 99% certain, or if you want to be accurate to within less than 2% points either way, your sample size needs to be larger.

Impact of Total Population Size

The confidence interval is almost entirely dependent on the sample size for the project, it is marginally affected by how positive or negative the answer is (i.e. the incidence interval is narrower as the answer approaches 0 or 100). It is not affected at all by the population size from which the sample is drawn, unless you are approaching a census (i.e. interviewing everyone). So whether you are interviewing in small country or a large country your choice of sample size would remain the same.

As the sample size gets bigger, the accuracy improves. However, the marginal gains start to become small. As a rule of thumb you will need to quadruple your sample size every time you want to cut the error in half.

The Importance of Adequate Sample

When considering the right sample size for your project, it’s important to think about how you will analyze the data after you have the results. Think about the groups you are likely to analyze and report on separately, and make sure you have adequate sample in those groups to provide the accuracy and confidence you need.

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Finally, remember that of course this is all about probability. Just because you say you are “95% sure that the true answer lies between 42% and 50%” doesn’t mean it is definitely so. The answer could in theory be anything. That’s why statistics don’t prove anything. They can only tell us the probability that something is so.

SSI publishes a sample size calculator to help in determining the correct sample size.