

Confidence Level and Sample Size

Before concerning yourself about confidence levels and sample sizes, think about the type of survey or opinion research you are conducting. For employee opinion/attitude surveys and similar surveys, we typically only focus on achieving very high participation levels (85% to 100%), not confidence levels and sample sizes. One reason for this is that department sizes may be only 8 to 15 people. There is no way to achieve a 95% confidence level with a 50% response rate with 8 to 15 respondents.

For a survey to project results confidently (95% confidence, plus or minus 5%) (the most commonly used confidence level and sample size) to the total population, the number of responses needed (sample size) used must be large enough. But fortunately, a fairly small sample can project rather well to a very large population as shown in the table below.

Total Population	# of Responses Needed
1,000,000	384
100,000	382
10,000	369
5,000	356
2,500	332
2,000	322
1,000	277
500	216
250	151
200	131
100	79

In general, 400 respondents will provide a 95% confidence for a large population (but the sample must be random or scientifically selected, and you must consider the smallest subgroup that you want to analyze as the basis for figuring your sample). Strictly speaking everyone that is randomly selected must respond to the survey, but we all realize that is not possible. Therefore, we use an alternative approach to achieve an acceptable confidence level.

For example, if you estimate your audience to be 1,000,000, you will need to have roughly 384 respondents to project with high confidence (95%, + or - 5%). If you use an online survey and expect to achieve a 40% response rate, you will need to email approximately 1,000 invitations. If you have subgroups to consider, you will need a larger sample. For example if one of your demographics is gender, you will need to double your number of email invitations of 2,000 (again, considering a 40% return rate). Further, if you have demographics that have smaller populations you will have to increase the sample size significantly to maintain a 95% confidence level.

You can see from the above chart, there isn't much difference between the sample size required for 1,000,000 and the sample size required for 5,000.

If you want to calculate the confidence level for your survey, go online and search for "sample size calculator" and "confidence level calculator".