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Sample size calculator

Get started

How many people do you need to take your survey? Even if you're a statistician, determining survey sample size can be tough.

Want to know how to calculate it? Our sample size calculator makes it easy. Here's everything you need to know about getting the right number of responses for your survey.

Calculate your sample size

Population Size

100000

Confidence Level (%)

95

Margin of Error (%)

5

Sample size

What is sample size?

Sample size is the number of completed responses your survey receives. It's called a sample because it only represents part of the group of people (or target population) whose opinions or behavior you care about. For example, one way of sampling is to use a "random sample," where respondents are chosen entirely by chance from the population at large.

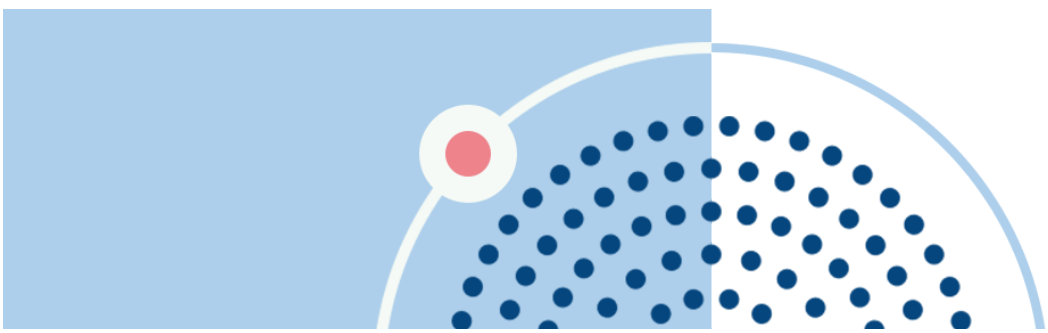
With this definition in mind, let's dive into the following topics:

- The different ways to interpret your sample's results
- The formula used to calculate sample size
- Why having an appropriate sample size for a survey matters
- How the significance of sample size varies across survey types

Understanding sample sizes

Here are three key terms you'll need to understand to calculate your sample size and give it context:

Population size: The total number of people in the group you are trying to study. If you were taking a random sample of people across the U.S., then your population size would be about 317 million. Similarly, if you are surveying your company, the size of the population is the total number of employees.



Margin of error: A percentage that tells you how much you can expect your survey results to reflect the views of the overall population. The smaller the margin of error, the closer you are to having the exact answer at a given confidence level.

Sampling confidence level: A percentage that reveals how confident you can be that the population would select an answer within a certain range. For example, a 95% confidence level means that you can be 95% certain the results lie between x and y numbers.

If you want to calculate your margin of error, check out our margin of error calculator.

How to calculate sample size

Wondering how to calculate sample size? If you'd like to do the calculation by hand, use the following formula:

$$\text{Sample size} = \frac{\frac{z^2 \times p\,(1-p)}{e^2}}{1 + \left(\frac{z^2 \times p\,(1-p)}{\quad}\right)}$$

N = population size • e = Margin of error (percentage in decimal form) • z = z-score

The z-score is the number of standard deviations a given proportion is away from the mean. To find the right z-score to use, refer to the table below:

Desired confidence level	z-score
80%	1.28
85%	1.44
90%	1.65
95%	1.96
99%	2.58

Things to watch for when calculating sample size

- If you want a smaller margin of error, you must have a larger sample size given the same population.
- The higher the sampling confidence level you want to have, the larger your sample size will need to be.

Does having a statistically significant sample size matter?

Generally, the rule of thumb is that the larger the sample size, the more statistically significant it is—meaning there's less of a chance that your results happened by coincidence.

But you might be wondering whether or not a statistically significant sample size matters. The truth is, it's a case-by-case situation. Survey sampling can still give you valuable answers without having a sample size that represents the general population. Customer feedback is one of the surveys that does so, regardless of whether or not you have a statistically significant sample size. Listening to customer thoughts will give you valuable perspectives on how you can improve your business.

On the other hand, political pollsters have to be extremely careful about surveying the right sample size—they need to make sure it's balanced to reflect the overall population. Here are some specific use cases to help you figure out whether a statistically significant sample size makes a difference.

The effect survey values have on the accuracy of its results

	Value increased	Value decreased
Population size	Accuracy decreases	Accuracy increases
Sample size	Accuracy increases	Accuracy decreases
Confidence level	Accuracy increases	Accuracy decreases
Margin of error	Accuracy decreases	Accuracy increases

Employee and human resources surveys

Working on an employee satisfaction survey? All HR surveys provide important feedback on how employees feel about the work environment or your company. Having a statistically significant sample size can give you a more holistic view on

feedback on how you should improve the workplace.

Customer satisfaction surveys

Like we said earlier, customer satisfaction surveys don't necessarily have to rely on having a statistically significant sample size. While it's important that your responses are accurate and represent how customers feel, you really should be taking a closer look on each answer in a customer satisfaction survey. Any feedback, positive or negative, is important.

Market research

When conducting a market research survey, having a statistically significant sample size can make a big difference. Market research surveys help you discover more information about your customers and your target market. That means a statistically significant sample size can easily help you discover insights on your overall target market. It also assures you're getting the most accurate information.

Education surveys

For education surveys, we recommend getting a statistically significant sample size that represents the population. If you're planning on making changes in your school based on feedback from students about the institution, instructors, teachers, etc., a statistically significant sample size will help you get results to lead your school to success. If you're planning on just receiving feedback from students for the sake of seeing what they think—and not necessarily making a change in the system—a statistically significant sample size might not be as important.

Healthcare surveys

When conducting healthcare surveys, a statistically significant sample size can help you find out what health issues are a greater concern for your patients over others. It

their regular care, a statistically significant sample size might not be as important. Without it, you're still able to get valuable information from individual patients about their needs and experience.

Casual surveys

On a day-to-day basis, you might want to send surveys to friends, colleagues, family, etc. In this case, it really depends on what you're looking for from your survey. If you'd like your results to be used as evidence, a statistically significant sample size is important. If not, and you're just using SurveyMonkey for fun, sending your survey to just a few people won't hurt.

Do you need more responses?

Don't just take a guess at how many people should take your survey and don't get bogged down in probability sampling or probability distribution models—use our sample size calculator. Get familiar with sample bias, sample size, statistically significant sample sizes, and how to get more responses. Soon you'll have everything you'll need to get better data for your survey.

If the sample size calculator says you need more respondents, we can help. Tell us about your population, and we'll find the right people to take your surveys. With millions of qualified respondents, SurveyMonkey Audience makes it easy to get survey responses from people around the world instantly, from almost anyone.

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