

Significance Testing

What is Significance Testing?

The goal of survey research is to use information gathered from a sample of people to infer things about the population as a whole. A significance test helps us to determine how likely it is that a difference identified within the sample is reflective of an actual difference in the population. Specifically, significance testing allows us to estimate the odds that our sample represents the population, and determine how likely it is that the difference between two scores is “true” or “real”. It gives us a measure of how confident we can be in the difference. A statistically significant difference is unlikely to be due to chance alone.

How does Significance Testing work?

Significance Testing takes into account: 1) the difference between two scores and, 2) the sample sizes of each group. Based on Probability Theory, we are able to use this information to determine the likelihood that a difference of that magnitude happened by chance.

What type of Significance Testing does Market Insights use?

While there are many different types, the appropriate significance test to use when measuring the difference between two proportions/percentages is the Z-Test. Specifically, because we are not making any assumptions about the direction of the difference, we use the two-tailed Z-test.

How do I interpret a significant difference?

Example:

- Top of Mind Awareness score for your facility in 2016 was 20% (n = 300). In 2017, this score jumped to 27% (n = 300). Based on your sample size, this is a statistically significant improvement at the $p < .05$ level. We can be 95% confident that the sample results are not due to chance factors alone, but reflect the population accurately (i.e., this difference is likely due to chance only 5 out of 100 times).